Three Essays on the Interplay between the Psychology of Actors and Their Network Structures

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I, Jung Won Lee, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Signature:

Abstract

This thesis explores the psychological antecedents and consequences of network structures. Although a wealth of research has identified the types of network positions and relationships that benefit individuals and organizations, we still know little about the psychological consequences of pursuing advantageous network positions. Nor have we examined how psychological experiences affect perceiving and acting on opportunities provided by network relationships. This thesis examines these questions in three essays.

The first essay examines the extent to which individuals' pursuits of seemingly advantageous network positions impose psychological costs that lead to deleterious consequences. Specifically, I examine the consequences of network brokerage, defined as the process of connecting actors across gaps in the social structure. Brokerage facilitates organizational activity and provides instrumental benefits for individual brokers. But despite its advantages, brokerage can be costly. In the first essay, I demonstrate that a certain type of brokerage led to brokers' burnout and abusive behaviors.

The second essay examines the psychological barriers that prevent individuals from forming advantageous ties in organizations with higher-ranking persons. I show that people experience a higher level of rejection anxiety when networking with a higher-ranking target (versus peer), and the salience of power, but not status, underlies the rejection sensitivity. When people see a higher-ranking person through the lens of status, they experience a lower level of rejection sensitivity and are more likely to engage in upward networking.

The third essay explores how lay beliefs about relationships affect the construal of network ties and the mobilization of resources available from the relationships. People vary in the extent to which they believe that relationships can grow or be fixed. Extending this research to the context of dormant relations, I show that lay beliefs of social relations

affect the way people construe their dormant contacts and whether they seek help from them.

Impact Statement

The importance of social networks on individuals' success and organizational functioning has been well established. Engaging in certain network activities, such as brokerage, and being connected to certain types of network relationships, such as people higher in an organizational hierarchy, provide a wide range of benefits that help individuals get ahead in their careers. However, our understanding of how people experience those networks and benefit from them is still limited. This thesis aims to provide theoretical and empirical frameworks concerning how individuals experience, form, perceive, and utilize social networks that confer advantages. Further, this thesis offers practical implications for managers and organizations regarding how employees and job seekers can benefit from social networks.

From a theoretical perspective, this thesis lays the foundation for future work that will consider individual psychology in social networks. For example, Chapter 2 shows that engaging in advantageous network behaviors can impose psychological costs (i.e., burnout) on people who span the position and lead to detrimental behavioral consequences (i.e., abusive behavior toward colleagues). Chapters 3 and 4 examine the psychological mechanisms (i.e., rejection anxiety and lay beliefs) that show why people are often less effective in building and mobilizing relationships that provide resources. Across three essays, this thesis employs a variety of methods including surveys and experiments and draws on theories from organizational behavior, psychology, and sociology. By doing so, this thesis addresses core research questions about why people differ in how they benefit from similar social network structures; and highlights individual agency in the forming and mobilizing of resources from social networks.

From a practical perspective, this thesis has several managerial implications. First, this thesis highlights the potential downsides of engaging in seemingly advantageous

network behaviors (i.e., pursuing the gap between disconnected other people) and suggests that managers and employees need to be aware of the costs of such activities. Second, the findings from this thesis provide a potential strategy to help employees' networking and new relationship formation. The importance of networking is well emphasized, but it is less understood how people can overcome the anxiety of networking to build instrumental relationships. Finally, this thesis proposes a novel way to detect and mobilize existing network resources, valuable for job seeking and performance but often not perceived by people.

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Chapter 1 - Introduction

Social networks play critical roles in how individuals access and control resources to gain benefits. Given their importance, several studies have identified the types of network positions and relationships that benefit organizations and individuals. For example, occupying the gap between disconnected people or groups is related to employee performance (Burt, 2002). High reputation and high-status connections help an individual to get a job (Kilduff, Crossland, Tsai, & Bowers, 2016; Lin, 2001), and long-lost contacts enhance employee performance once they are reconnected (Levin, Walter, & Murnighan, 2011; Walter, Levin, & Murnighan, 2015).

Yet, there is a wide range of variance in returns of the advantageous social networks. The traditional structural approach tends to focus on the constraints of the network structures in explaining this variance (see Tasselli, Kilduff, & Menges, 2015 for a review), ignoring the individuality of actors who are embedded in the relationships. Yet networks are formed based on individual actors and their interactions with other people (White, 2008). Our understanding of this variance would be limited without considering the psychology of individual actors. For example, what psychological costs are imposed on actors when they pursue a structural gap between disconnected people? How do psychological experiences such as emotions and beliefs affect motivation to engage in network formation and mobilization?

To address these questions, in this thesis, I adopt the perspective of the micro-foundations of social networks (Tasselli et al., 2015), which emphasizes the integration of individual psychology and social networks. Specifically, I examined the psychological antecedents of forming advantageous network relationships and the consequences of engaging in activities to pursue advantageous network positions. By doing so, I aim to contribute to understanding the variance in the returns of advantageous network positions

and relationships. The main body of this thesis consists of three stand-alone research papers. They are based on extensive data collection using surveys and experiments that were undertaken both online and in the field.

In Chapter 2, I examine the psychological consequences of seemingly advantageous network activities, brokerage. Brokerage, the process of connecting actors across gaps in social structure, is critical in facilitating social and organizational activity (Kellogg, 2014; Reagans & McEvily, 2003; Stovel & Shaw, 2012). Brokerage also grants individual brokers a wide range of organizational benefits (Burt, 2002). Despite its advantages, brokerage can be costly to brokers because it involves effortful work, such as transferring information and facilitating coordination (Stovel & Shaw, 2012). I suggest that these work demands deplete brokers' energy, with implications for abusive behavior toward coworkers. I differentiate two types of brokerage and argue that a certain type of brokerage is psychologically taxing (i.e., causes burnout) and has deleterious behavioral consequences (i.e., abusive behavior) not only for brokers but also for other colleagues whom brokers interact with.

In Chapter 3, I take a turn to the other side of the perspective, the psychological antecedents of building advantageous network relationships (i.e., ties). Specifically, I identify a cognitive-affective mechanism that prevents people from forming instrumental ties in organizations. Forming new ties, especially with those who are in higher ranks in an organizational hierarchy, provides performance benefits and facilitates career success (Lin, 2001). However, people are often reluctant to engage in such behaviors because they experience anxiety about potential rejection even when they are surrounded by opportunities to do so. Taking an interpersonal perspective, I address the question of how people experience acceptance and rejection (i.e., rejection sensitivity) (Downey & Feldman, 1996) from potential networking targets. Extending the concept of rejection

sensitivity (Downey & Feldman, 1996) to the context of instrumental relationships in organizational hierarchy, I propose that people experience a higher level of anxiety when networking with a higher-ranking person (versus peer) in an organization, and this anxiety has detrimental consequences for forming network ties with higher-ranking people.

In Chapter 4, I expand the focus to how people perceive and mobilize opportunities from network ties. In particular, I focus on dormant contacts: individuals who people used to know well but with whom they have lost in touch (Levin et al., 2011). Dormant ties provide people with novel information and opportunities (Granovetter, 1973) in efficient ways (Levin et al., 2011; Walter et al., 2015). However, there is variance among people in reconnecting dormant ties when people need help from them (Boase, Kobayashi, Schrock, Suzuki, & Suzuki, 2015; Flynn, 2005). To answer why some people are better than others in utilizing dormant ties, I draw on lay beliefs of social relations (Dweck, 1996; Kuwabara, Hildebrand, & Zou, 2018) and the extent to which people believe that the basis of relationships is compatibility or commitment (Kuwabara et al., 2018). I argue that the lay beliefs affect the way people construe their dormant contacts and consequently affect their decision to seek help from the contacts.[1]

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[1] Chapters 2, 3, and 4 include three stand-alone research papers. I am the first author of Chapters 2 and 4 and the second author of Chapter 3. Chapter 2 is based on a paper I coauthored with Martin Kilduff and Sun Young Lee. Chapter 3 is based on a paper I coauthored with Xi Zou and Abigail Scholer and part of the paper appeared in Proceedings of the Seventy-eighth Annual Meeting of the Academy of Management. Chapter 4 is based on joint work with Ko Kuwabara. In these chapters, the first-person plural pronoun (e.g., we) is used to refer to me and my coauthors. In Chapters 2 and 4, I played a leading role in developing the main ideas of the theory and study designs, collecting and analyzing the data, and writing the chapters. In Chapter 3, I jointly developed the main ideas and jointly wrote the chapter, and I played a leading role in collecting and analyzing the data.

Chapter 2 - Brokers Behaving Badly: How Burnout Leads to Abusive Behavior

Introduction

Brokerage, the process of connecting people or groups across social divides, confers many advantages on those who are positioned between disconnected others. The advantages include access to novel information, control over the flow of resources (Stovel & Shaw, 2012), and creative ideas (Burt, 2004). Overall, network brokers are rewarded for the difficult work of decoding and encoding information transfer across disconnected clusters (Burt, Kilduff, & Tasselli, 2013) with high performance ratings (Mehra, Kilduff, & Brass, 2001), high pay (Burt, 2007), and fast promotions (Burt, 1992).

Although the returns to brokerage are well-established (Burt, Kilduff, & Tasselli, 2013), the downsides are less examined as noted by a recent review that called for research on the effects of harmful brokering (Halevy, Halali, & Zlatev, 2019) and also cited research acknowledging that "we know little about the impact of brokers on those around them" (Clement, Shipilov, & Galunic, 2018: 1). Prior research has suggested that brokering between disconnected others can be stressful (Stovel & Shaw, 2012) given that people prefer to huddle with others similar to themselves rather than bridge between those who are different (McPherson, Smith-Lovin, & Cook, 2001). A diverse, disconnected network places demands on the broker from conflicting preferences and allegiances while removing resources of trust, support, and a clear identity associated with a cohesive network (Coleman, 1990; Podolny & Baron, 1997). Despite these hints, prior work has neglected the possibility of negative outcomes of brokerage on the brokers themselves and on their colleagues. Given the importance of brokerage in facilitating organizational

coordination (Obstfeld, 2017), in providing informal leadership (e.g., Carter, DeChurch, Braun, & Contractor, 2015), and in furthering individuals' careers (Fang et al., 2015), it is vital to understand not only the well-established contribution of brokerage to the creation of social capital (Burt, 2000; Stovel & Shaw, 2012) but also how brokerage potentially undermines the health of brokers and the well-being of their network contacts.

The purpose of this paper is to examine how two types of brokerage activity – bringing people together, i.e., catalyst brokerage (Stovel & Shaw, 2012), and keeping people apart, i.e., divide-between brokerage (Simmel, 1950) – differ in their negative effects on the brokers themselves and the colleagues they interact with. We contribute to a consideration of an aspect of brokerage that has been largely overlooked – the role demands of brokers' invisible labor of coordinating exchanges among unacquainted parties (Obstfeld, 2017). Just as formal organizational roles differ in their combinations of resources and demands (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), the informal roles that brokers play also differ depending on whether brokerage involves the union or disunion of initially separated parties. Second, we examine the deleterious effects of two types of brokerage activities on the brokers themselves. In particular, divide-between brokerage saps brokers' energy with consequences for broker burnout, a state of physical, emotional, and mental exhaustion (Pines & Aronson, 1988). Third, we examine the spillover effects of brokerage on colleagues. Current research and theory emphasize the positive effects of brokerage on outcomes (Halevy et al., 2019). Neglected is the possibility of negative consequences for brokers' co-workers in terms of being targets of brokers' hostile verbal and nonverbal behaviors, i.e., abusive behavior (Tepper, 2000). Overall, we contribute to the burgeoning interest in the micro-foundations of brokerage activity in organizational settings (Obstfeld, Borgatti, & Davis, 2014).

Theoretical Background

> He would walk down the hall with a stack of letters, read the mail, write replies and just throw them over his shoulder, assuming someone would be there to pick them up.
>
> He would call partners at all hours, summon them to ride uptown in his chauffered Oldsmobile and then ignore them as he talked on the telephone or scanned a memorandum.
>
> Peterson derived his strength from his contacts ….His skill at bringing in new business staggered even his detractors….
>
> Ken Auletta, 1985, describing Peter G. Peterson, chairman of Lehman Brothers.

Peter G. Peterson was a consummate social network broker, who brought much business to his bank by connecting across clients, competitors, governments and others through lunches, dinners, and philanthropic engagements. But Peterson also treated his colleagues in ways that appeared hostile and uncaring. We examine the likely causes and consequences of such abusive broker behavior.

Abusive behavior from supervisors, coworkers, and the public is pervasive in organizations (Schat, Frone, & Kelloway, 2006). Abuse includes shouting, belittling, swearing, derogation, taunting, and mocking (e.g., https://www.bbc.co.uk/news/uk-politics-45862741). These behaviors have deleterious effects on abused employees including psychological distress, reduced self-esteem, lowered performance, and increased turnover (see Mackey, Frieder, Brees, & Martinko, 2017; Martinko, Harvey, Brees, & Mackey, 2013 for reviews). Abusive behavior also harms organizations in terms of billions of dollars annually in health care charges and productivity reductions (Foulk, Lanaj, Tu, Erez, & Archambeau, 2018: 662).

The possibility that brokerage leads to abusive behavior has been neglected in social network research. We break new ground in examining the deleterious consequences of brokerage for brokers and for their colleagues. We emphasize, however,

that not all brokerage behavior is likely to be so energy depleting as to result in burnout with consequences for abuse. Brokerage incorporates different activities under one label. Different types of brokerage activities have different implications for individuals and organizations (Soda, Tortoriello, & Iorio, 2018).

We consider two different types of brokerage activities: catalyst brokerage, also known as *tertius iungens* (Obstfeld, 2005), that involves bringing disconnected people together; and divide-between brokerage, commonly discussed as *tertius gaudens* (Burt, 1992; Simmel, 1950), that involves creating or maintaining disunion between people (see Soda et al., 2018, for a recent treatment). These two types of brokerage involve different psychological demands and resources.

A Job Demands-Resources Approach to Brokerage Roles

Formal roles in organizations require mental and physical effort to deal with job demands such as role conflict, role ambiguity, and work overload. Research on the job demands-resources model shows that high or unfavorable job demands predict exhaustion across a range of types of jobs (Demerouti et al., 2001). Job resources such as social support help buffer the impact of job demands on burnout (Bakker, Demerouti, & Euwema, 2005). This research program has contributed significantly to our understanding of burnout in organizations (Crawford, LePine, & Rich, 2010) but has neglected the job demands of informal organizational roles such as brokerage.

The Hawthorne studies (Roethlisberger & Dickson, 1939) revealed the network structure of work groups and the roles of those who held no formal authority yet wielded influence through their access to resources such as diverse information (Homans, 1950: 148). People who broker between disconnected others tend to emerge as leaders in the eyes of their fellow employees (Bavelas, 1950; Shaw, 1964). But how the activities of these social network brokers relate to job demands is often unnoticed by management

(Krackhardt, 1995) despite brokerage work being crucial to the furthering or restricting of organizational goal accomplishment (Burt & Ronchi, 1990).

The work of brokerage in organizations requires sustained physical and psychological effort. Brokerage can only take place if would-be brokers strive to create social networks of contacts that can facilitate project completion (Obstfeld, 2005). Once contacts are in place it may take repeated efforts to coordinate across gaps in social structure (Obstfeld, 2005). Brokers engage in energy-consuming activities including going to great lengths to foster and maintain network connections, setting up meetings with different, sometimes conflicting parties, and assiduously preparing themselves and their clients for meetings with other parties (Long Lingo & O'Mahony, 2010). Energy is a basic resource for all those who work in organizations, but this resource can be drained by work demands according to a variety of theories of human motivation and performance (Quinn, Spreitzer, & Lam, 2012).

Job demands, such as having to coordinate across disconnected others, are likely to deplete energy whereas job resources, such as support from others, restores energy (Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014; Hobfoll, 1989). The self-regulatory strength model (Baumeister, Vohs, & Tice, 2007) suggests that the exercise of deliberate, goal-oriented behavior (such as working across gaps in social structure to further project completion) depletes energy resources (Baumeister, Bratslavsky, Muraven, & Tice, 1998). Similar predictions are made by compensatory control theory (Hockey, 1993, 1997).

Two Types of Brokerage and Burnout

In the context of brokerage, the physical and mental demands involved in maintaining separation between different groups or people are likely to use up valuable resources of time, attention (Ocasio, 1997), and energy. These kinds of work-related

demands are linked to strain and burnout (Crawford et al., 2010). But not all brokerage interactions in organizational settings drain energy (Owens, Baker, Sumpter, & Cameron, 2016). There are different types of brokerage activities. Sometimes brokers bring parties together in order to overcome stalled progress on product or service improvements (e.g., Obstfeld, 2005). This type of catalyst brokerage is unlikely to lead to burnout because bringing people together can replenish the broker's energy. Sometimes brokers keep parties apart to benefit from their disunion (Burt, 1992: 34; Simmel, 1950: 154) either personally or in the service of organizational goals (e.g., Long Lingo & O'Mahony, 2010). Divide-between brokerage involves playing the two divided parties off against each other (Simmel, 1950) in order to increase others' dependence on the brokers and their power in the network (Baum, Shipilov, & Rowley, 2003: 704). As suggested by Burt (1992: 34), for example, brokerage plays "conflicting demands and preference against one another and builds value from their disunion." This divide-between brokerage is likely to lead to broker burnout because of the energy expended in maintaining disunion. We focus on these two types of brokerage: catalyst brokerage in which brokers bring disconnected people together to form a new connection between them (Stovel & Shaw, 2012) and divide-between brokerage in which brokers prevent people from directly interacting with each other (Burt, 1992). These two types of brokerage, we argue, involve different amounts of psychological resource expenditure and subsequent negative behavior to co-workers.

Brokers span across social divides in organizations and are therefore subject to role conflict related to differing demands from separated parties. This kind of role conflict can be debilitating in terms of burnout (Crawford et al., 2010). Because brokers mediate between actors who adhere to different norms and conventions (Mehra & Schenkel, 2008; Stovel, Golub, & Milgrom, 2011), brokers face unclear role expectations (Dekker,

Stokman, & Franses, 2000) and come under pressure from both sides of the structural divide. They may find themselves distrusted (Tasselli & Kilduff, 2018) or feel tortured (Krackhardt, 1999) by the very people they are brokering between.

We add to this conversation the idea that it is divide-between brokerage, relative to catalyst brokerage, that is likely to lead to burnout. Divide-between brokerage involves not just more role conflict relative to catalyst brokerage but also more cognitive work as brokers move information and ideas across separated parties. By keeping others apart, divide-between brokers remain burdened with go-between activity such as arranging separate meetings with separated parties, extracting and transferring sticky knowledge from one group to another (von Hippel, 1994) and interpreting ambiguous or distorted information between groups (Burt, 1992: 33). These activities require considerable effort as evidenced by the project work of Nashville music brokers (Long Lingo & O'Mahony, 2010).

Catalyst brokerage, in contrast to divide-between brokerage, offers the broker the potential to decrease role conflict and cognitive overload through the provision of job resources and the lessening of job demands. By connecting previously disconnected parties, brokers can resolve the different norms and conflicts inherent to their position. They can move on to new challenges and extend their influence in organizational settings (Obstfeld, 2005). Furthermore, catalyst brokerage is likely to be psychologically rewarding and replenishing through the experience of facilitating organizational coordination between separated people. Providing help to others boosts well-being (Glomb, Bhave, Miner, & Wall, 2011; Weinstein & Ryan, 2010), increases positive emotion (Alden & Trew, 2013) and replenishes helpers' resources (Lilius, 2012), especially if helpers perceive themselves as effecting a prosocial impact (Lanaj, Johnson, & Wang, 2016). The experience of helping others protects the individual from burnout

(Grant & Campbell, 2007; Grant & Sonnentag, 2010; Moynihan, DeLeire, & Enami, 2015; Sonnentag & Grant, 2012). We suggest, therefore, that coordinating across separated parties in pursuit of mutual gains is likely to help ameliorate symptoms of burnout derived from the role conflict and cognitive demands inherent to the brokerage role. Building from the job demands-resources perspective as applied to informal social network roles, we posit the following hypothesis:

Hypothesis 1. Divide-between brokerage, relative to catalyst brokerage, increases brokers' burnout.

Burnout and Abusive Behavior

We have suggested that people who engage in divide-between brokerage, relative to people who engage in catalyst brokerage, are likely to feel emotionally overextended and drained by their contact with the separated parties. Emotional exhaustion and an unfeeling or callous response toward others are symptoms of burnout (Cordes & Dougherty, 1993; Leiter & Maslach, 1988). And burnout is likely to lead to abusive behavior toward others (Barnes, Lucianetti, Bhave, & Christian, 2014; Lin, Ma, & Johnson, 2016) because exhausted employees have difficulty controlling their aggressive impulses (Muraven & Baumeister, 2000). When employees experience burnout, their emotional resources are depleted, and, like Peter G. Peterson, they are likely to engage in abusive, aggressive, and counterproductive work behavior toward others (Christian & Ellis, 2011; Marcus & Schuler, 2004; Wheeler, Halbesleben, & Whitman, 2013). More broadly, individuals' resource deprivation predicts aggression (DeWall, Baumeister, Stillman, & Gailliot, 2007; Stucke & Baumeister, 2006). Accordingly, we posit the following mediation hypothesis in which divide-between brokerage leads to abusive behavior as mediated by burnout.

Hypothesis 2. Divide-between brokerage, relative to catalyst brokerage, increases brokers' subsequent abusive behaviors as a result of a higher level of burnout.

Figure 2.1 summarizes the theoretical model predicting how the two different types of brokerage affect brokers' burnout and abusive behaviors.

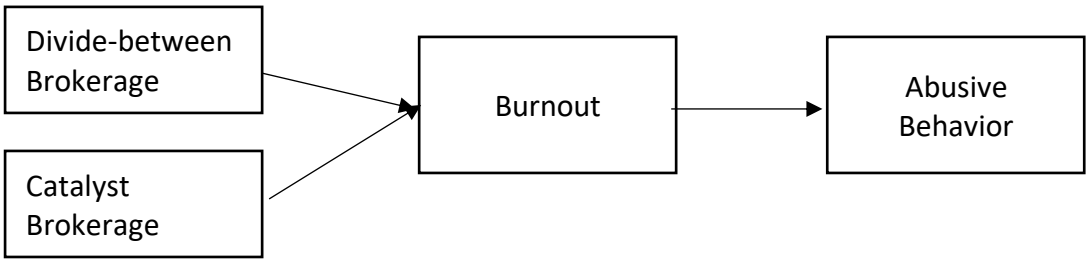


Figure 2. 1 Theoretical Model

Overview of Studies

We conducted four studies that together investigated whether divide-between brokerage, relative to catalyst brokerage, led to burnout and subsequently to abusive behavior toward coworkers. Study 1 tested the discriminant validity of a scale measuring propensities toward catalyst brokerage and divide-between brokerage. Study 1 also tested whether divide-between brokerage related to burnout. The following three studies tested the full mediation model with data from the same day (Study 2), across time (Study 3), and from an experiment in which brokerage behavior was manipulated (Study 4).

In all studies, we predetermined the sample size to detect a medium-size effect and reach a power of 95% (Faul, Erdfelder, Lang, & Buchner, 2007). Our research concerns work relationships, so across all four studies, we recruited only those who 1) were currently employed in an organization that had multiple employees and 2)

frequently interacted with coworkers or work contacts. To minimize country-level cultural variation, we recruited participants exclusively from among those who resided and worked in the U.S. In Studies 1, 2, and 4, where participants were recruited from Amazon Mechanical Turk (Mturk) (see Buhrmester, Kwang, & Gosling, 2011 for subject details), we ensured that none of our participants engaged in more than one of our studies by embedding a code script in the online recruitment page (Ott, 2016).

Study 1: Methods

Participants

We planned an exploratory factor analysis (EFA) of 13 brokerage propensity items, so we aimed to recruit about 250 participants in line with recommendations for 15-20 respondents per item (Costello & Osborne, 2005). We recruited 247 MTurk participants (M_{age} = 31.22, SD_{age} = 8.66; 41% male; 73% White, 9% Hispanic, 7% Asian-American, 7% African-American; 64% bachelor's degree or higher) who completed the survey in exchange for $1.00 each. Seventy-three percent of participants were employed full-time, 27 % part-time. Sixteen percent were employed in the educational sector, 13% in the health and medical sector, and 8% in the retail sector. Forty-one percent of participants held mid-manager positions.

Measures

Catalyst and divide-between brokerage propensities. Participants indicated on a 7-point scale (1 = strongly disgree to 7 = strongly agree) the extent to which they agreed with statements regarding their "typical" interaction tendencies with their work contacts who were not mutually acquainted with each other. We measured participants' *catalyst brokerage propensity* using the 6-item *tertius iungens* scale (Obstfeld, 2005) (α = .85): e.g., "I introduce people to each other who might have a common strategic work interest." We measured *divide-between brokerage propensity* using seven items (α = .87) we

developed through several iteration processes (details available upon request). The items reflect theoretical discussion of the *tertius gaudens* broker, "the third who benefits" from conflict or disunity between divided parties (Simmel, 1950: 154). "The *tertius* plays conflicting demands and preferences against one another and builds value from their disunion" (Burt, 1992: 34). Accordingly, the divide-between items (see Table 2.1) describe brokers who "try to keep others separated from one another" in pursuit of their own self-interest (e.g., "I deliberately keep people apart in order to advance my interests") that may or may not overlap with organizational interests (see Long Lingo & O'Mahony, 2010 for examples of divide-between brokerage in pursuit of project completion).

State-level burnout. We measured *state-level burnout* with thirteen items (1 = strongly disgree to 7 = strongly agree) from the two subscales of the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1981) that gauge the core and related aspects of burnout: emotional exhaustion and depersonalization: e.g., "Right now, I feel fatigued;" and "Right now, I feel I would treat others as if they were impersonal objects." By highlighting "right now" (see Heatherton & Polivy, 1991 for a similar approach) we measured participants' state-level of burnout. Based on the EFA, we created a composite measure of state-level burnout by averaging scores of the thirteen items (α = .76). We omitted the personal achievement subscale that is independent of the other two burnout subscales (Brookings, Bolton, Brown, & McEvoy, 1985; Maslach, Jackson, & Leiter, 1997) and is unrelated to our theoretical framing.

Controls. Following previous research (e.g., Soda et al., 2018), in Studies 1, 2 and 3, we controlled for a variety of demographic variables likely to affect the outcomes. These controls included: participants' age in years, gender (1 = male, 0 = female), ethnicity (1 = white, 0 = others), education (1 = Bachelor's degree or higher, 0 = others),

job status (1 = full time, 0 = others), and rank (1 = mid-manager, 0 = others).

Study 1: Results and Discussion

For the thirteen items that measured two different types of brokerage propensities, we conducted an exploratory factor analysis (EFA) with maximum likelihood and direct oblimin rotation (Hinkin, 1998) to allow for correlation among items. Results based on the scree-plot (two points), Kaiser eigenvalues, and pattern matrix (Fabrigar, Wegener, MacCallum, & Strahan, 1999; Hinkin, 1998) identified a two-factor structure, as shown in Table 2.1. The seven divide-between brokerage items loaded on one factor (eigenvalue = 4.38; variance explained = 34%, all items loadings > .575), and the six catalyst brokerage items loaded on another factor (eigenvalue = 3.25; variance explained = 25%, all items loadings > .719). Because there is a tendency for the Kaiser criterion to overestimate the number of factors to retain (Nunnally & Bernstein, 1994), we also conducted a parallel analysis (Hayton, Allen, & Scarpello, 2004; Horn, 1965). We obtained the estimated eigenvalues using randomly generated datasets with specification identical to our observed dataset (95_{th} percentile estimated eigenvalue 1 = 1.50; 95_{th} percentile estimated eigenvalue 2 = 1.37; 95_{th} percentile estimated eigenvalue 3 = 1.27). The cutoff point for determining which factors to retain is based on the point where the eigenvalues from the observed data are higher than those from the estimated ones (Hayton et al., 2004). Our first two observed eigenvalues were greater than the 95_{th} percentile of the estimated eigenvalues. Therefore, we retained the two factors.

Table 2. 1 EFA Results for Brokerage Scale (Study 1)

Scale Items	**Factor Loadings**	
	Divide-Between Brokerage	Catalyst Brokerage
1. I deliberately keep people apart in order to advance my interests.	.85	
2. I strive to keep people apart when I can benefit from their separation.	.84	
3. I prevent people from directly communicating with each other.	.84	
4. I try to keep others separated from one another.	.81	
5. I often see advantages in preventing people from directly communicating with each other.	.78	
6. I encouraged divisions among people when this will open up opportunities for me to act as a go-between.	.66	
7. I keep disconnected people apart to avoid tensions.	.58	
8. I point out the common ground shared by people who have different perspectives on an issue.		.78
9. I forge connections between different people dealing with a particular issue.		.78
10. I introduce people to each other who might have a common strategic work interest.		.77
11. I introduce two people when I think they might benefit from becoming acquainted.		.74
12. I will try to describe an issue in a way that will appeal to a diverse set of interests.		.73
13. I see opportunities for collaboration between people.		.72
Eigenvalues	4.38	3.25
% of variance	33.66	24.99
Coefficient alpha	.85	.87

Table 2.2 presents the descriptive statistics and correlations among variables. The mean score of divide-between brokerage propensity was 2.21 (range: 1− 6), and that of catalyst brokerage propensity was 5.24 (range: 1− 7). The two brokerage propensities were not significantly correlated each other (p = -.10), suggesting that the relationship is non-orthogonal.

There was preliminary support in the correlations for Hypothesis 1 such that divide-between brokerage (r = .31, p < .001), rather than catalyst brokerage (r = -0.13, p < .05), positively related to state burnout. The regression results in Table 2.3 provide further support for Hypothesis 1. Models 2 and 3 show individuals' propensity to engage in catalyst brokerage did not significantly relate to burnout whereas people who typically engaged in a higher extent of divide-between brokerage experienced a higher level of burnout around the time of the survey. In Model 4, with both types of brokerage variables entered together, divide-between brokerage (b = 0.39, p < .001) positively related to burnout whereas catalyst brokerage did not (b = -0.14, *ns*).

Supplementary analysis. Three items (Items 1, 2, and 6 in Table 2.1) of the divide-between brokerage scale describe a set of brokering activities that imply self-interested motives whereas all of the catalyst brokerage items describe activities with less self-interested motives or without any explicit motive. To rule out confounds related to certain motives rather than the brokerage type on burnout, we ran the same set of regression analyses using only the four items measuring "neutral" divide-between brokerage propensity that do not state any explicit motives (Items 3, 4, 5, and 7 in Table 2.1; α = .77). Results held the same as in the main analyses such that neutral divide-between brokerage propensity (b = 0.43, p < .001) positively related to burnout whereas catalyst brokerage did not (b = -0.13, p = .121).

Table 2. 2 Descriptive Statistics and Correlations (Study 1)

Variable	mean	*SD*	1	2	3	4	5	6	7	8	
1. Gender (1 = male, 0 = female)	0.41	0.49	–								
2. Age	31.27	8.65	-.07	–							
3. Race (1 = White, 0 = others)	0.74	0.44	.01	.11	–						
4. Job status (1= full-time, 0 = others)	0.74	0.44	.09	.20**	.02	–					
5. Rank (1= mid-manager, 0 = others)	0.41	0.49	.03	.16*	.09	.13*	–				
6. Education (1= BA or higher, 0 = others)	0.64	0.48	-.08	.05	-.08	.11	.12	–			
7. Catalyst brokerage propensity	5.24	1.02	-.12	.10	-.06	.05	.10	.06	(.85)		
8. Divide-between brokerage propensity	2.21	1.14	.28***	-.10	-.08	.03	-.03	-.04	-.10	(.87)	
9. State-level burnout	3.21	1.43	.02	-.14*	-.05	.05	-.06	-.08	-.13*	.31***	(.76)

Notes. N = 247 (n =246 for education). Cronbach alphas are indicated in parentheses where applicable. Two-tailed tests.

* $p < .05$

** $p < .01$

*** $p < .001$

Table 2. 3 Regression of Brokerage on Burnout (Study 1)

Variable	Model 1	Model 2	Model 3	Model 4
Catalyst brokerage		-0.16		-0.14
		(0.09)		(0.09)
Divide-between brokerage			0.40***	0.39***
			(0.08)	(0.08)
Control variables				
Gender	-0.00	-0.04	-0.26	-0.28
	(0.19)	(0.19)	(0.19)	(0.19)
Age	-0.02*	-0.02*	-0.02	-0.02
	(0.01)	(0.01)	(0.01)	(0.01)
Race	-0.12	-0.14	-0.04	-0.06
	(0.21)	(0.21)	(0.20)	(0.20)
Job status	0.31	0.32	0.28	0.30
	(0.21)	(0.21)	(0.20)	(0.20)
Rank	-0.10	-0.07	-0.08	-0.06
	(0.19)	(0.19)	(0.18)	(0.18)
Education	-0.24	-0.23	-0.21	-0.20
	(0.19)	(0.19)	(0.18)	(0.18)
Constant	4.02***	4.84***	3.05***	3.76***
	(0.40)	(0.60)	(0.43)	(0.62)
R^2	0.04	0.05	0.13***	0.14***
df	[6, 239]	[7, 238]	[7, 238]	[8, 237]

Notes. N = 246. All coefficients are unstandardized; standard errors are in parentheses. All tests are two- tailed.

* $p < .05$

*** $p < .001$

Study 2: Methods

Results from Study 1 suggest that people who typically engage in divide-between brokerage, relative to those who engage in catalyst brokerage, are at greater risk of experiencing burnout. But in Study 1, we tested participants' brokerage tendencies rather than their actual behaviors. In Study 2, we examined how daily brokerage *activities* affected individuals' psychological states and abusive behaviors toward other coworkers on the same day.

Participants

A total of 147 participants (M_{age} = 32.16, SD_{age} = 9.70; 39% male; 73% White, 10% Asian-American, 9% Hispanic, 8% Black; 63% bachelor's degree or higher) recruited from Amazon Mechanical Turk (Mturk) completed the survey in exchange for $1.00. Among them, 74% participants were employed full-time, and 26% part-time; 14% were employed in the retail sector, 10% in the health and medical sector; and 35% held mid-manager positions.

Measures

Prior to the page with the consent form, we provided a definition of brokerage and asked participants (1 = yes, 0 = no) if they had engaged in brokerage activities that day. Only those who responded positively proceeded to the main part of the study.

Catalyst and divide-between brokerage activities (that day). We measured participants' *catalyst brokerage activities* (α = .91) and *divide-between brokerage activities* (α = .92) by adapting the scales from Study 1. Specifically, participants indicated *how many times* on that specific day they had engaged in the two types of brokerage activities with work contacts who were not mutually acquainted with each other (1 = never, 7 = six times or more). Because one item from the divide-between brokerage activities scale captures propensity (e.g., "often") rather than behavior, the item ("I often see advantages in preventing people from directly communicating with each other") was dropped from Studies 2 and 3.

State-level burnout (that day). We measured state-level burnout (α = .94) by using the same items as in Study 1.

Abusive behaviors (that day). We measured participants' abusive behaviors with the eight items (α = .91) from the abusive supervision scale (Tepper, 2000). Participants indicated how many times they had engaged in abusive behavior with any of their work

contacts on that day (from 1 = never, 7 = six times or more): e.g., “I was rude to a person”, and “I told a person that he/she was incompetent.”

Controls. We measured the same control variables as in Study 1.

Study 2: Results and Discussion

Table 2.4 presents the descriptive statistics and correlations among variables. Participants tended to engage less in divide-between brokerage (M = 1.73, range: 1−6.17) than in catalyst brokerage (M = 3.17, range: 1−7) on the day on which they were surveyed. The two brokerage activities were moderately and positively correlated with each other, r = .43 (p < .001), suggesting that some people engaged in both types of brokerage.

Paralleling the results from Study 1, the correlations (Table 2.4) show that the extent to which participants engaged in divide-between brokerage positively related to burnout (r = .23, p < .01) whereas the extent of catalyst brokerage did not (r = .05, *ns*). The regression results in Table 2.5 provide further support for Hypothesis 1 in that catalyst brokerage either by itself (Model 2) or with the additional inclusion of divide-between brokerage (Model 4) did not significantly affect burnout whereas divide-between brokerage significantly affected burnout in both models

Table 2. 4 Descriptive Statistics and Correlations (Study 2)

Variable	mean	*SD*	1	2	3	4	5	6	7	8	9	
1. Gender (1 = male, 0 = female)	0.39	0.49	–									
2. Age	32.16	9.70	.04	–								
3. Race (1 = white, 0 = others)	0.73	0.45	-.24**	.11	–							
4. Job status (1 = full-time, 0 = others)	0.76	0.43	.12	.20*	-.02	–						
5. Rank (1 = mid-manager, 0 = others)	0.35	0.48	.09	.18*	.00	.14	–					
6. Education (1 = BA or higher)	0.65	0.48	.09	.05	-.13	.29***	.06	–				
7. Catalyst brokerage	3.17	1.40	-.06	.08	-.15	.09	-.06	-.06	(.91)			
8. Divide-between brokerage	1.73	1.14	.07	-.06	-.15	.05	-.15	.09	.43***	(.92)		
9. State-level burnout	3.35	1.36	-.05	-.16	.08	-.03	-.02	.01	.05	.23**	(.94)	
10. Abusive behaviors	1.66	0.96	.13	.04	-.18*	.07	-.14	.19*	.34***	.72***	.27**	(.91)

Notes. N = 147. Cronbach alphas are indicated in parentheses where applicable. Two-tailed tests.

* $p < .05$

** $p < .01$

*** $p < .001$

Table 2. 5 Regression of Brokerage on Burnout (Study 2)

Variable	Model 1	Model 2	Model 3	Model 4
Catalyst brokerage		0.08		-0.03
		(0.08)		(0.09)
Divide-between brokerage			0.30**	0.32**
			(0.10)	(0.11)
Control variables				
Gender	-0.06	-0.04	-0.09	-0.10
	(0.24)	(0.24)	(0.23)	(0.24)
Age	-0.02	-0.03*	-0.02†	-0.02†
	(0.01)	(0.01)	(0.01)	(0.01)
Race	0.29	0.34	0.39	0.37
	(0.26)	(0.27)	(0.26)	(0.26)
Job status	-0.02	-0.05	-0.06	-0.05
	(0.28)	(0.29)	(0.28)	(0.28)
Rank	0.04	0.06	0.15	0.15
	(0.24)	(0.24)	(0.24)	(0.24)
Education	0.10	0.13	0.06	0.04
	(0.25)	(0.25)	(0.24)	(0.25)
Constant	3.86***	3.60***	3.28***	3.35***
	(0.46)	(0.54)	(0.49)	(0.53)
R^2	0.04	0.04	0.09†	0.10†
df	[6, 140]	[7, 139]	[7, 139]	[8, 138]

Notes. N = 147. All coefficients are unstandardized; standard errors in parentheses. All tests are two-tailed.

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

Turning to Hypothesis 2's prediction that people who engaged in divide-between brokerage are likely to exhibit abusive behaviors as a result of burnout, we conducted a mediation analysis using the Process Macro (Hayes, 2013) with a 10,000 bootstrapped resample to calculate a 95% confidence interval (95% CI) for the indirect effect of burnout. Recent research has shown that bootstrapping is one of the most powerful methods for testing mediation (Hayes, 2013; Williams & MacKinnon, 2008). Supporting Hypothesis 2, the indirect effect of divide-between brokerage (controlling for catalyst brokerage) on abusive behaviors via state-level burnout was significant (effect size = 0.03, *SE* = 0.02; 95% CI: 0.01 to 0.08). These results showed that the extent to which participants engaged in divide-between brokerage activities (on a given day) positively related to brokers' abusive behaviors toward coworkers (on that same day) via increased feelings of burnout.

Supplementary analysis. As in Study 1, we ran the same set of regression analyses using the items measuring neutral divide-between brokerage (α = .87). Results held the same as in the main analyses such that neutral divide-between brokerage activities (b = 0.30, p = .004) positively related to burnout whereas catalyst brokerage activities did not (b = -0.03, p = .740).

Study 3: Methods

In Studies 1 and 2, data were collected from a single source at one time, raising concerns about common method bias and causal order (Podsakoff, MacKenzie, & Podsakoff, 2012). To mitigate these concerns, in Study 3, we collected data at three different times. At Time 1, we measured participants' baseline level of burnout. At Time 2, participants reported state-level burnout and the extent to which they engaged in the two types of brokerage activities on that day. At Time 3, participants reported the frequency of their abusive behaviors at work. Following previous research that showed

that depletion effects carry over from one day to the next (e.g., Lin et al., 2016), we tested the hypotheses over consecutive days. Moreover, we collected data from a variety of organizations to improve the generalizability of our findings.

Participants and Procedure

Participants were recruited through Survey Sampling, Inc. (SSI), a firm that operates a strict process for verifying participants' employment status and other details. This type of participants has been used in organizational research to strengthen the external validity and generalizability of findings (e.g., Bendersky & Shah, 2013; Strauss, Griffin, & Parker, 2012). The final sample included 135 full-time employees working in various U.S.-based firms (M_{age} = 35.13, SD_{age} = 9.69; 42% male; 69% White, 9% Asian-American, 11% Hispanic, 10% Black; 86% Bachelor's degree or higher). Participants were paid from $2.10 to $7.10, depending on the number of surveys they completed. Among participants, 34% were employed in education, 20% in the finance and banking, and the others in different industries. Twenty-nine percent held mid-manager positions. Participants' average tenure in their current role was 6.45 years (*SD* = 5.50), and 67% of participants were employed in large organizations (more than 500 employees).

Participants were administered three surveys across three to six consecutive days. To capture participants' baseline level of burnout, we took into account research showing that the depleted resources experienced by people due to sleep disruption during the work week (Barnes, Wagner, & Ghumman, 2012; De Lange et al., 2009) could be replenished through sufficient sleep (Baumeister, 2003; Baumeister, Heatherton, & Tice, 1994) during the weekend. The survey at Time 1 was sent to 250 people between Saturday morning and Sunday evening to assess participants' baseline burnout. The survey at Time 2 was sent during the evening from Monday to Wednesday to assess the frequency of brokerage activities and state-level burnout that same day. A total of 170 participants

responded to this survey (68% retention rate). The survey at Time 3 was sent during the evening from Wednesday to Friday to assess the frequency of abusive behaviors that same day at work. We also collected demographic characteristics and employment details in this survey. A total of 135 participants responded to this survey (79% retention rate).

Measures

Baseline burnout (Time 1). We measured *baseline burnout* (α = .95) using the original items and instruction from the MBI scale. Participants were asked to indicate how often they *generally* (e.g., over the past six months) experienced a range of feelings at work (1 = never, 7 = always). Sample items included: "I feel fatigued when I get up in the morning and have to face another day on the job" and "I feel I treat some people as if they were impersonal objects."

Catalyst and divide-between brokerage activities (Time 2). As in Study 2, participants indicated how many times they had engaged in catalyst brokerage activities (α = .91) and divide-between (α = .91) brokerage activities on that day.

State-level burnout (Time 2). We measured state-level burnout (α = .95) on the day using the same items as in Studies 1 and 2.

Abusive behavior (Time 3). We measured participants' abusive behaviors on the following day (α = .92) using the same items as in Study 2.

Control variables. We controlled for the same set of variables as in Studies 1 and 2. We also included two additional organizational-related variables: organization size (1 = more than 500 employees, 0 = others) and individuals' tenure (in years) with the current organization.

Study 3: Results and Discussion

Table 2.6 presents the descriptive statistics and correlations among variables. Participants tended to engage less in divide-between brokerage (M = 2.10, range: 1−6.17)

than in catalyst brokerage (M = 2.95, range: 1−7) on the surveyed day. These mean scores are similar to those in Study 2 in which we tested our theories with Mturk workers employed in corporate environments. As in Study 2, the two brokerage activities were moderately and positively correlated, r = .40 (p < .001).

Providing preliminary support for Hypothesis 1, the correlations in Table 2.6 show that the extent of engagement in divide-between brokerage related significantly to burnout (r = .36, p < .001) whereas that of catalyst brokerage did not (r = .04, *ns*). In this study, we controlled for participants' baseline burnout in all regression analyses (see Table 2.7). In further support of Hypothesis 1, Model 4 (Table 2.7) shows that divide-between brokerage (b = 0.25, p < .05) at Time 2, but not catalyst brokerage (b = -0.05, *ns*), predicted participants' burnout on the same day.

We tested mediation using the same method as in Study 2. Supporting Hypothesis 2, the indirect effect of divide-between brokerage (while controlling for catalyst brokerage activities) on abusive behavior via burnout was significant (effect size = 0.04, SE = 0.03; 95% CI: 0.00, 0.12). Even after controlling for baseline burnout and other individual characteristics, the frequency of divide-between brokerage activities on one day significantly increased state-level burnout, leading to more abusive behavior the next day.

Table 2. 6 Descriptive Statistics and Correlations (Study 3)

	mean	*SD*	1	2	3	4	5	6	7	8	9	10	11	
1. Gender [a]	0.42	0.50												
2. Age	35.23	9.78	.05											
3. Race [b]	0.67	0.47	.06	.09										
4. Rank [c]	0.39	0.49	.21*	.12	.09									
5. Education [d]	0.81	0.39	.25**	.23**	.04	.11								
6. Tenure	6.44	5.48	.08	.46***	.11	.29**	.08							
7. Organization size [e]	0.45	0.50	.09	.03	-.05	-.13	-.03	.08						
Time 1														
8. Baseline burnout	3.64	1.35	.07	.02	-.07	-.02	.11	.00	.14	(.95)				
Time 2														
9. Catalyst brokerage	2.95	1.30	-.05	-.14	-.15	-.07	-.12	-.07	.03	-.01	(.91)			
10. Divide-between brokerage	2.10	1.19	.17*	-.21*	-.06	.05	.06	-.07	.11	.35***	.40***	(.91)		
11. State-level burnout	3.73	1.47	-.02	-.10	.05	-.10	-.01	-.16	.08	.59***	.04	.36***	(.95)	
Time 3														
12. Abusive behaviors	2.06	1.09	.14	-.15	-.17	-.09	-.04	-.14	.19*	.40***	.29**	.52***	.44***	(.92)

Notes. *N* = 132. Cronbach alphas are indicated in parentheses where applicable. Two-tailed tests.

[a] 1 = male, 0 = female; [b] 1 = white, 0 = others; [c] 1 = mid-manager, 0 = others; [d] 1 = BA or higher, 0 = others; [e] 1 = more than 500 employees, 0 = others.

* $p < .05$

** $p < .01$

*** $p < .001$

Table 2. 7 Regression of Brokerage on Burnout at Time 2 (Study 3)

Variable	Model 1	Model 2	Model 3	Model 4
Catalyst brokerage		0.04		-0.05
		(0.08)		(0.09)
Divide-between brokerage			0.22*	0.25*
			(0.10)	(0.11)
Control variables				
Gender	-0.10	-0.10	-0.17	-0.18
	(0.22)	(0.22)	(0.22)	(0.22)
Age	-0.01	-0.01	0.00	-0.00
	(0.01)	(0.01)	(0.01)	(0.01)
Race	0.38	0.39	0.39	0.37
	(0.22)	(0.23)	(0.22)	(0.22)
Rank	-0.14	-0.14	-0.17	-0.18
	(0.23)	(0.23)	(0.23)	(0.23)
Education	-0.17	-0.15	-0.19	-0.21
	(0.28)	(0.28)	(0.28)	(0.28)
Tenure	-0.04	-0.04	-0.04	-0.04
	(0.02)	(0.02)	(0.02)	(0.02)
Organization size	0.03	0.03	-0.00	-0.01
	(0.21)	(0.22)	(0.21)	(0.21)
Baseline Burnout	0.66***	0.66***	0.60***	0.59***
	(0.08)	(0.08)	(0.08)	(0.08)
Constant	1.75	1.60*	1.36*	1.51*
	(0.51)	(0.61)	(0.53)	(0.60)
R^2	0.40***	0.40***	0.42***	0.42***
df	[8, 123]	[9, 122]	[9, 122]	[10,

Notes. N = 132. All coefficients are unstandardized; standard errors in parentheses. All tests are two-tailed.

* $p < .05$

*** $p < .001$

Supplementary analysis. As in Studies 1 and 2, we ran the same set of regression analyses using the items measuring neutral divide-between brokerage (α = .87). Results held the same as in the main analyses such that neutral divide-between brokerage behavior at Time 2 (b = 0.17, p = .075) marginally positively related to burnout whereas catalyst brokerage did not (b = -0.01, p = .901).

Study 4: Methods

The prior three studies help establish the relationship between divide-between brokerage and abusive behavior as mediated by brokers' burnout. To examine the claim

that divide-between brokerage actually causes abusive behavior, we conducted an experiment in which we manipulated participants' brokerage activities.

Participants and Design

A total of 216 participants (M_{age} = 32.74, SD_{age} = 9.26; 40% male; 73% White, 10% African, 7% Hispanic, 7% Asian; 69% BA degree or higher; all currently employed) recruited from Amazon Mechanical Turk (Mturk) participated in the experiment in exchange for $1.00. Among them, 74% participants were employed full time; 15% were employed in the health and medical sector, 14% in education, 10% in retail; and 31% held mid-manager positions. Participants were randomly assigned to either the catalyst brokerage or the divide-between brokerage condition.

Procedure and Measures

At the beginning of the experiment, participants were told that they would engage in workplace interaction simulations. Before reading the workplace scenario, participants were asked to recall and nominate initials or nicknames of two work contacts who were not acquainted with each other from among their coworkers, managers, subordinates, customers, or coworkers from other departments. By including participants' actual network ties in a vignette (e.g., Burt, 1992; Levin, Walter, & Murnighan, 2011), we aimed to fully immerse participants in the scenario.

Brokerage manipulation. Next, participants were asked to imagine that the two (nominated) work contacts had been marketing managers in two different firms who had now begun to work in a merged company. In the *catalyst brokerage* condition, participants were further asked to imagine that they served as the primary matchmaker between the two coworkers by bringing them together. In the *divide-between brokerage* condition, participants were asked to imagine that they served as the primary barrier to prevent misunderstandings between the two coworkers by keeping them apart. Next, to

let participants immerse themselves in the scenario situation, we asked them to write a short essay concerning what they would do to bring the coworkers together (or keep the coworkers apart), and how they would feel during and after the process. Previous research has used a similar approach to strengthen manipulation effects (e.g., Galinsky, Gruenfeld, & Magee, 2003).

Manipulation check. We averaged the responses to the following items in each experimental condition (1 = "strongly disagree" and 5 = "strongly agree") to assess the effectiveness of the brokerage manipulations. In the catalyst condition, the items were as follows: "I tried to bring persons A and B together who were otherwise separated" and "I forged connections between persons A and B who were otherwise separated" (r = .75, p < .001). In the divide-between condition, the items were as follows: "I tried to keep persons A and B separated from one another" and "I tried to keep persons A and B apart" (r = .95, p < .001).

State-level burnout. We measured state-level burnout (α = .96) using the same items as in the previous studies.

Abusive behaviors. Next, participants read another short scenario where one of the employees they supervised repeatedly made the same mistake. Participants indicated the extent to which they would engage in abusive behaviors toward the employee (1= not at all, 7 = very much). We adopted 8 items (α = .95) from the abusive supervision scale (Tepper, 2000). Sample items included the following: "I would be rude to the person" and "I would tell the person that he/she is incompetent."

Study 4: Results and Discussion

To test Hypothesis 1, we conducted a one-way (brokerage activity) analysis of variance (ANOVA) on state-level burnout. In support of Hypothesis 1, participants in the divide-between brokerage condition (M = 3.97, SD = 1.67) reported a higher level of

burnout than those in the catalyst brokerage condition (M = 2.51, SD = 1.27), $F(1, 214)$ = 53.23, $p < .001$, $\eta_p^2 = .20$.

To test Hypothesis 2, we used a bootstrapping procedure to test the significance of the indirect effect (Preacher & Hayes, 2004). First, we created a divide-between dummy variable (1 = divide-between brokerage, 0 = catalyst brokerage). Next, using SPSS Process Macro (Hayes, 2013), we calculated a bootstrapped 95% CI for the indirect effect of brokerage with 10,000 resamples. The results supported Hypothesis 2. The indirect effect of divide-between brokerage activity on abusive behavior via state-level burnout was significant (effect size = 0.30, SE = 0.08; 95% CI: 0.16 to 0.46).

In summary, the results of Study 4 showed that, in comparison to catalyst brokerage, divide-between brokerage increased people's reported burnout and their subsequent likelihood of engaging in abusive behavior.

General Discussion

Brokerage that takes advantage of the gaps in social structure, rather than seeking to close the gaps, produces the best returns for the broker (Soda et al., 2018). But what are the costs of the divide-between brokerage role, relative to the catalyst brokerage role, for brokers and their colleagues? Our results support the idea that the role-related demands of divide-between brokerage are likely to lead to burnout. And this burnout tends to trigger abusive behavior by the broker toward others.

Across four studies, we showed that two types of brokerage -- divide-between and catalyst -- have different effects on brokers' burnout and resulting abusive behaviors. In Study 1, we found that *propensity* to engage in divide-between brokerage was positively associated with brokers' state-level burnout whereas propensity to engage in catalyst brokerage was not. Thus, as expected, not all brokerage activities are so energy depleting as to lead to emotional exhaustion and the tendency to depersonalize others. Bringing

people together in the interests of project completion may even alleviate stress and strain on the broker through the psychological rewards associated with prosocial behavior (e.g., Lanaj et al., 2016).

Brokerage is increasingly discussed in terms of the activities of brokering rather than the mere occupation of a position between separated others (Obstfeld et al., 2014). Therefore, in Study 2, we examined the effect of *daily brokerage activity* on individuals' burnout and abusive behaviors on the same day, replicating the results of Study 1. It is the practice of divide-between brokerage that leads to emotional exhaustion and the tendency to depersonalize others, not the mere occupancy of a structuraI position. In Study 3, we ran a multi-wave field study to mitigate common method bias, strengthen external validity, and examine evidence for the processual view that brokerage leads to abusive behavior. We found that engagement in divide-between brokerage, relative to catalyst brokerage, on a work day led to a higher level of burnout, resulting in more abusive workplace behaviors on a subsequent day. This time sequence – brokerage, burnout, abusive behavior – is suggestive of causality. In Study 4, using an *experiment* to assign people to the two different types of brokerage role, we found evidence for a causal relationship, with divide-between brokerage affecting the tendency to abuse others because of the experience of burnout.

The returns to brokerage behavior are well-established in terms of work performance, promotions, and bonuses (Burt et al., 2013). Brokers who span across the gaps in social structure achieve advantage because of their access to nonredundant sources of information, their early knowledge of opportunities, and their control and influence over flows of resources (Burt, 1992). But prior research has also noted that the brokerage process of moving between separated groups can engender distrust among colleagues (Tasselli & Kilduff, 2018) and may fail to produce the advantages associated

with structural-hole spanning in organizations that emphasize high trusting relationships (Xiao & Tsui, 2007). Divide-between brokers may suffer reputational damage among important mentors because cross-allegiances blur their identities (Podolny & Baron, 1997). These hints in the prior literature suggest that divide-between brokers may be particularly susceptible to the stress and strain inherent to the brokerage role (Stovel & Shaw, 2012). Our research takes these hints further in finding evidence for broker burnout and also for the alarming likelihood of brokers behaving badly in workplace interactions.

Theoretical Implications

A recent review called for future research on brokerage to pay "close attention to micro-level relations and social psychological processes" (Stovel & Shaw, 2012: 139). There are also calls to investigate the neglected negative consequences of brokerage not only for brokers themselves but also for those to whom they are connected (Halevy et al., 2019). In answering these calls, we make three main contributions to network research and theory related to the costs of brokerage for brokers and their coworkers.

First, we take seriously the notion that the brokerage role, even though it is informal, is similar to formal organizational roles in terms of making work demands and providing resources. We introduce the job-demands and resources perspective (Demerouti et al., 2001) to network theory to highlight differences between two main types of brokerage activities involving bringing separated people together and keeping separated people apart. Brokers, in moving between separated parties, inevitably engage with different clusters of people in different ways (e.g., Long Lingo & O'Mahony, 2010). This type of engagement in multiple roles can either deplete energy when brokers face incompatible demands across organizational boundaries (e.g., Singh, Goolsby, & Rhoads, 1994) or alleviate energy depletion when brokers engage in energizing exchanges in the absence of conflict (Cullen-Lester, Leroy, Gerbasi, & Nishii, 2016; Marks, 1977). Divide-

between brokers may be weighed down by the burdens of plot and counterplot in their multiple role plays, whereas catalyst brokers may lighten their burdens by bringing people together across divides. These two types of brokerage are, we suggest, different in their demands on individuals in terms of energy depletion and replenishment.

Although the divide-between brokerage process has been discussed in prior work (Burt, 1992; Simmel, 1950; Soda et al., 2018), there has been little theoretical or empirical attention to its *negative* effects on brokers. Given the importance of brokerage for organizations' functioning (Kellogg, 2014; Reagans & McEvily, 2003; Stovel & Shaw, 2012) as well as the benefits to individuals (e.g., Burt, 1992), it is important to understand the potential costs of different types of brokerage activities. Our second contribution toward theory, therefore, is to bring attention to the tendency for divide-between brokers to burn out as a result of the role demands of moving ideas and resources across social space. Burnout is a damaging and prevalent consequence of the stress involved in work that focuses on people as clients (Maslach & Schaufeli, 2017). It is divide-between brokers who gain the most from connecting across the gaps that separate people in organizations (Soda et al., 2018). The possibility that divide-between brokerage entails harm for brokers challenges the almost universal emphasis on the positive benefits of brokerage (Halevy et al., 2019).

Our research advances recent work showing that brokers gain advantage by periodically removing themselves from the divide-between role in order to cluster within cohesive groups thereby enhancing their reputations and building the trust that is essential for gaining advantage from the brokerage role (Burt & Merluzzi, 2016). Future research can investigate whether this oscillation between brokerage and closure allows divide-between brokers to regularly recharge their batteries and thereby avoid the burnout that threatens their careers.

Our third contribution to theory concerning the costs of brokerage relates to the spillover effects of divide-between brokerage on workplace colleagues in terms of abusive behavior. Prior research has advanced the notion of social network brokers as informal leaders whose influence derives from their role connecting across otherwise disconnected groups (e.g., Burt, 1999). Our paper suggests a caveat to this picture. Catalyst brokers are essential to project completion in complex organizations in which expertise is often contained within non-interacting silos (Obstfeld, 2005). Divide-between brokerage is also necessary to keep conflicting parties from disrupting organizational processes (Long Lingo & O'Mahony, 2010). But the price an organization pays for divide-between informal leadership may be too high if it involves the abuse and belittling of organizational members illustrated in the Peter G. Peterson anecdotes.

Given that brokers act as informal leaders in organizations (e.g., Carter et al., 2015), it is important to understand not just the negative outcomes of brokerage for others, but also the mechanism by which these outcomes are made more likely. Thus, we balance the largely positive treatment of brokerage in the literature with an assessment of which type of brokerage is likely to incur costs to the broker and coworkers.

Practical Implications

Our findings suggest that employees and managers in organizations should be aware of the potentially depleting effects of brokerage on brokers and their contacts. Given that much brokerage activity is relatively invisible, connecting as it does across the formal lines of communication in organizations, managers may have to be particularly astute in noticing and providing resources for brokerage activities, particularly in the case of those divide-between brokers who manage divisions in the service of organizational goals.

Another way to subdue the negative consequences of divide-between brokerage is to buffer brokers from burnout by providing them opportunities to periodically disengage from divide-between brokerage activities during the work day so that brokers can replenish their psychological resources. Individuals who oscillate back and forth between brokerage activity and engagement within closed networks are more effective in their work than individuals who solely pursue either brokerage or closure (Burt & Merluzzi, 2016). Organizations can encourage employees to take a break (Trougakos, Beal, Green, & Weiss, 2008) after engaging in divide between brokerage at work. Organizations can also enable brokers to understand the prosocial impact of their activities (e.g., Grant & Campbell, 2007), thereby helping them to replenish depleted resources. Finally, brokers who work to bring colleagues together in organizational settings for their mutual benefit can take heart in that their brokerage is unlikely to increase the fatigue that can lead to harmful attitudes and abusive behavior.

Limitations and Future Directions

Our research examined brokers' burnout and the effects on brokers' coworkers, but didn't examine performance related outcomes in organizations. That divide-between brokerage is psychologically more taxing than catalyst brokerage may help explain why some people, more than others, obtain rewards from the occupation of a brokerage position (Burt et al., 2013). Given that resource depletion reduces intellectual performance (Schmeichel, 2007; Schmeichel, Vohs, & Baumeister, 2003) and contributes to suboptimal decision making (Baumeister, 2002; Masicampo & Baumeister, 2008), future research can examine whether burnout as a result of brokerage is responsible for reduced brokerage returns. Future research can examine the relationship between different types of brokerage and performance indicators as mediated by burnout.

In the current research, we have stressed the dark side of divide-between brokerage but have neglected the possibility that the activity of keeping parties apart may, under some circumstances, psychologically benefit actors and their alters. For example, after engaging in divide-between brokerage, brokers might feel a sense of power because of their enhanced control over alters, particularly if these brokers have a tendency toward a Machiavellian manipulation of others. There is also the possibility that, in an organization riven with conflict between competing groups, employees might respond positively to the efforts of divide-between brokerage, relative to catalyst brokerage, in pursuit of project completion (Long Lingo & O'Mahony, 2010). A future focus on the responses of alters to different brokerage activities can help us understand the process by which innovation initiatives succeed in such circumstances. Alters' perception of brokerage may be critical in the implantation of new ideas.

In this research, we focus on understanding the effects of different types of brokerage activities on brokers' psychological state and interpersonal behaviors. However, it is possible that an individual's specific network position may interact with brokerage activities in systematically varying the level of burnout and related social consequences. For example, brokers who occupy sparser, versus denser, networks may be less depleted from divide-between brokerage activities due to the skills and abilities developed in dealing with tensions arising from such positions (Burt, 2010). There is, therefore, potential for several lines of future inquiry concerning brokerage type and outcomes, both positive and negative.

Despite the wide scope of benefits associated with brokerage, our findings suggest that brokerage may come at a cost to the brokers and those who interact with them. Different types of brokerage are likely to be experienced quite differently by the brokers and by organizational colleagues who interact with brokers. If there is one overarching

message from the current research it is that engaging in divide-between brokerage puts the broker at risk of not just burnout but also of abusiveness toward others in the workplace.

Chapter 3 - Rejection Sensitivity and Forming New Professional Relationships

Introduction

Professional relationships are essential for generating career success and important social capital (e.g., Brass, 1985; Burt, 1992; Ibarra, 1995), and one might assume that these instrumental benefits could outweigh any relational concerns. However, evidence reveals that professionals often feel uncomfortable with or are ineffective in professional networking, which involves purposefully creating, maintaining, or leveraging relationships (Bensaou, Galunic, & Jonczyk-Sédès, 2014; Casciaro, Gino, & Kouchaki, 2014; Walter, Levin, & Murnighan, 2015; Wanberg, Kanfer, & Banas, 2000).

Because professional networking presents possible rejection, we propose that discomfort from this risky endeavor can be further elucidated by examining the psychological concerns about rejection that occur when people seek to form new professional relationships (Baumeister & Leary, 1995). A significant body of work has shown that the anxious expectation of potential rejection (rejection sensitivity) is a critical psychological barrier that people frequently experience in a number of different social domains (Downey & Feldman, 1996; Downey, Freitas, Michaelis, & Khouri, 1998; Feldman & Downey, 1994).

In this paper, we draw on the concept of rejection sensitivity to explore how people experience and manage rejection anxiety in forming new professional relationships. Our findings provide a new perspective on studying networking by focusing on how psychological barriers that arise from the interpersonal context disrupt effective networking. We also advance the research on rejection sensitivity by examining

the cues that activate rejection sensitivity in a new area—professional relationships. This paper offers new insights into affective perspectives in organizational network research (Casciaro, 2014) and, more broadly, enriches the research on individual agency in the shaping of social network structures (Emirbayer & Goodwin, 1994; Whiting & de Janasz, 2004).

Theoretical Background

Social Networking

Networking creates access to social capital, thus building reciprocal relationships that facilitate access to professional resources, such as information and career success (e.g., Higgins & Kram, 2001; Higgins & Thomas, 2001). However, although networking provides many professional benefits, research has shown that not everyone is equally motivated to engage in it, and some even hold negative attitudes towards it. Many seasoned professionals and job seekers who acknowledge the importance of networking struggle with forming and using relationships to get ahead professionally (Bensaou et al., 2014; Wanberg et al., 2000). Engaging in professional networking can induce feelings of dirtiness or moral contamination, but this result does not typically occur while engaging in personal networking (Casciaro et al., 2014). Research on the psychology of social networking has revealed important micro-processes that drive individual behaviors such as forming new relationships with relative strangers or maintaining and cementing existing relationships (Casciaro et al., 2015).

Forming New Professional Relationships

Among the various professional networking activities, seeking to form new relationships may be particularly challenging. Developing new ties is largely about taking initiative, and a wealth of research has shown that many people feel uncomfortable about initiating relationships (Thompson, 2005). Therefore, it is not surprising that

professionals at social events are likely to spend time with people they already know, even if their explicitly stated goal is to make new connections (Ingram & Morris, 2007). Similarly, in business settings, professionals consider initiating ties with strangers who could be potential business partners to be quite risky (Baum et al., 2005). In a recent study, Kim, Lee, and Park (2015) found that individuals who first engaged in initiating new relationships subsequently behaved in a more risk-averse manner than those who first engaged in cementing existing relationships. The authors argue that initiating new connections generates more intense feelings of riskiness compared with strengthening existing ties.

Although studies have largely focused on how feelings about networking affect networking behavior, little research has addressed the fundamental interpersonal concerns underlying the psychological experience of forming a new professional relationship—that is, how people feel about the potential for acceptance or rejection from a networking target. In this paper, we propose that examining fundamental interpersonal concerns about acceptance and rejection in the context of forming new professional relationships can shed light on the situations in which people find it easier or harder to engage in professional networking.

Rejection Sensitivity

The theory of rejection sensitivity directly speaks to the interpersonal concerns regarding acceptance and rejection (Downey & Feldman, 1996; Downey et al., 1998; Feldman & Downey, 1994). Rejection sensitivity is a cognitive-affective processing dynamic (Mischel & Shoda, 1995) whereby people anxiously expect, readily perceive, and intensely react to rejection signals in situations in which rejection is possible. The concept was originally studied in research on close relationships, which showed that people’s expectations about rejection from significant others created a self-fulfilling

prophecy that compromised their individual and relationship well-being (Downey & Feldman, 1996; London, Downey, Bonica, & Paltin, 2007; Romero-Canyas et al., 2010). In recent years, researchers have begun to examine rejection sensitivity in different social domains and have found that people can develop anxious concerns about being rejected based on characteristics such as gender (London, Downey, Romero-Canyas, Rattan, & Tyson, 2012; London, Rosenthal, & Gonzalez, 2011), race (Mendoza-Denton, Downey, Purdie, Davis, & Pietrzak, 2002; Mendoza-Denton, Pietrzak, & Downey, 2008), and social class (Rheinschmidt & Mendoza-Denton, 2014).

Past research has shown that rejection sensitivity in close relationships (RS-personal) predicts the extent to which people attribute hurtful intent to a new romantic partner's insensitive behavior. In contrast to RS-personal, race-based rejection sensitivity predicts the extent to which minority students have negative experiences in predominantly White university settings (e.g., Mendoza-Denton et al., 2002). Additionally, the relationship between RS-personal and attributions is not an artifact of other associated individual dispositions, including general social anxiety, self-esteem, and neuroticism (Downey & Feldman, 1996). Given that rejection sensitivity is domain-specific, it is important to study the particular facets that most directly capture the concerns for professional relationships.

Rejection sensitivity has mainly been studied as an individual disposition (Downey & Feldman, 1996; Feldman & Downey, 1994). Nevertheless, it is important to recognize that specific psychological features of interpersonal situations (i.e., gender, social class, ethnicity) trigger rejection sensitivity, which in turn elicits reactions such as withdrawal or avoidance, in the manner of an "if…then contingency" (Mischel & Shoda, 1995). In this paper, we focus on the contextual variables that trigger rejection sensitivity and its downstream implications for professional networking. Regarding professional

relationships, we posit that organizational rank is a salient social characteristic that can activate rejection sensitivity. That is, lower-ranking professionals are likely to experience high levels of anticipatory anxiety and expect rejection when seeking to form a new relationship with a higher-ranking target.

Rank-Based Rejection Sensitivity

Organizational rank is a salient characteristic of professional settings (Magee & Galinsky, 2008) that indicates whether an individual is subordinate or superordinate to another individual within a social hierarchy (Blau & Scott, 1962). Organizational rank is often used as an indicator of competence and power, with higher-ranking individuals assumed to have a greater combination of skills, abilities, and power in the organization than lower-ranking individuals (Mintzberg, 1979). Being connected to higher-ranking contacts confers substantial values because of the greater influence inherent in positions of higher rank; for example, individuals who have more connections to higher-ranking contacts gain greater access to the resources those contacts control (Dreher & Ash, 1990; Kilduff, Crossland, Tsai, & Bowers, 2015; Lin, Ensel, & Vaughn, 1981; Podolny, 2001). Not surprisingly, professionals are commonly advised to develop relationships with higher-ranking contacts to improve performance and develop their careers (Burke & McKeen, 1990; Higgins & Kram, 2001; Higgins & Thomas, 2001).

Rejection sensitivity is rooted in the prior experience of acceptance or rejection in a particular domain. For example, rejection sensitivity in an intimate relationship hinges on a person's childhood experience with their caretakers (Downey & Feldman, 1996). When parents tend to meet children's expressed needs with rejection, the children become sensitive to rejection. In these cases, the children develop the expectation of being rejected when they seek acceptance from significant others, and they put value on

avoiding such rejections. They subsequently experience anxiety when they express needs to others.

This underlying psychology is also relevant to the organizational context in which relative rank differences exist. Lower-ranking individuals are typically in the position to seek approval from their higher-ranking colleagues, in addition to being expected to accept requests from them. At the same time, lower-ranking individuals are more likely to experience rejection from higher-ranking individuals than from peers or those of a lower rank. Due to this asymmetry, we hypothesize that individuals will experience a higher level of rejection sensitivity when seeking to form new relationships with a higher-ranking target than with a peer or a lower-ranking target.

Hypothesis 1. Organizational rank difference elicits the experience of rejection sensitivity.

Power Versus Status in Driving Rejection Sensitivity

The salience of rank differences within networking situations may be related to one or both of the two most important psychological bases for hierarchical ranking—power and status (Magee & Galinsky, 2008). While power and status are important concepts in a wide range of areas, we draw on recent developments in social psychology to differentiate these two concepts. Power is about an individual's asymmetric control of resources, whereas status captures the extent to which an individual is respected and admired by others (Anderson et al., 2001; Blader & Chen, 2014; Keltner, Gruenfeld, & Anderson, 2003; Ridgeway & Walker, 1995). Both of these desirable qualities are central to social hierarchy (Bales, 1958; Berger, Rosenholtz, & Zelditch, 1980; Magee & Galinsky, 2008).

These two distinct bases of hierarchical ranks have direct implications for understanding the psychology of rank-based rejection sensitivity. Recent research has

empirically compared and contrasted the effect of these two psychological bases for hierarchical rank (Blader & Chen, 2012; Fast, Halevy, & Galinsky, 2012; Hays & Bendersky, 2015). For example, power orients individuals' attention toward themselves, while status orients individuals' attention outwardly (Blader & Chen, 2012, 2014; Flynn, Reagans, Amanatullah, & Ames, 2006). Additionally, power decreases perspective-taking and status increases perspective-taking (Blader, Shirako, & Chen, 2016; Galinsky et al., 2006). High-power individuals are more likely to unfairly allocate bonuses and violate procedural justice, but high-status individuals are less likely to engage in such destructive behaviors (Blader & Chen, 2012). Based on these distinctions, we suspect that individuals are more sensitive to threat and punishment cues when interacting with a high-power target than when interacting with a high-status target, and subsequently are more likely to interpret ambiguous behaviors from a high-power target as rejection signals. Thus, we predict that individuals will experience a significantly higher level of rejection sensitivity when seeking to form ties with high-power targets than when seeking to form ties with high-status targets.

Hypothesis 2. Power is more likely than status to increase rank-based rejection sensitivity.

Overview of Studies

After developing the rank-based rejection sensitivity measure in a pilot study (described below), we tested our hypotheses across four studies. In Study 1, we tested the causal role of organizational rank in eliciting rejection sensitivity (Hypothesis 1). In Studies 2 and 3, we found support for the proposal that rank-based rejection sensitivity is primarily driven by the power differences, rather than the status differences, that underlie the organizational rank differences (Hypothesis 2). In Study 4, we developed an intervention to test whether participants would become more engaged in forming a new

relationship when viewing the organizational rank difference through the lens of status (instead of power) because of a reduced level of rejection sensitivity.

Pilot Study: Methods and Results

Prior to testing our hypotheses, we developed a Rank-Based Rejection Sensitivity measure. To identify the relevant situations for measuring rank-based rejection sensitivity, we recruited 50 participants, who lived in the United States and spoke English as their first language (42.5% female; M_{age} = 29.9 years, *SD* = 7.6; 75.8% White, 13.7% Black, 3.4% Asian, 3.4% Hispanic, and 3.4% other), via Amazon Mechanical Turk (Mturk) to participate in exchange for $1. We asked the participants to recall a past interaction with a senior colleague at work that made them feel rejected (e.g., "*ignored their questions*," "*declined their requests*"). The list of interactions converged toward two domains: professional issues (i.e., career advice, task questions, and project execution) and personal issues (i.e., a personal decision, lunch, and a nonwork experience). Accordingly, we developed six items to reflect these situations (see Table 3.1)[2].

[2] To avoid confounding gender-based rejection sensitivity, female participants were given a scenario describing a female colleague and male participants were given a scenario describing a male colleague.

Table 3. 1 Summary of Exploratory Factor Analysis Results for Rejection Sensitivity

	Factor Loadings	
Questionnaire Item	1	2
You ask if she/he would be free to have lunch together	**.58**	**.47**
You ask for advice on a project that you're working on	**.71**	.09
You ask for help in making a personal decision	**.60**	-.30
You ask for career advice	**.71**	-.23
You ask for help with an issue you have been having at work	**.74**	-.38
You ask about the experience in the gym	.39	**.72**
Eigenvalues	2.40	1.04
% of variance	39.95	17.28

Note: Factor loadings greater than .40 are in bold.

Next, we modeled our measure on the structure of the Adult Rejection Sensitivity Questionnaire (A-RSQ) (Berenson et al., 2009), to create an initial measurement of rank-based rejection sensitivity. For this step, we recruited 133 master's students enrolled in a class at a major business school in central London, United Kingdom. The participants (43.6% female; M_{age} = 22.73 years, *SD* = 1.52; 65.4% White, 30.1% Asian, 3.8% Hispanic, and 0.7% other) were asked to complete the measure before the first class of the term.

Previous scales for measuring rejection sensitivity in other domains use a format in which respondents are asked to indicate how they would respond in a variety of scenarios (e.g., Berenson et al., 2009; Downey et al., 1996). To create a context relevant for forming new relationships, participants were asked to imagine themselves as newcomers to an organization. They were then given six different situations, as identified above in Table 3.1, in which they had an opportunity to start a conversation with a senior colleague with whom they had no prior contact. For each scenario, participants rated their anxiety about rejection on a 7-point scale ranging from 1 (*very unconcerned*) to 7 (*very concerned*) and the extent to which they expected acceptance on a 7-point scale ranging

from 1 (*very unlikely*) to 7 (*very likely*). The format of these questions closely mirrored that of the original A-RSQ scale (Berenson et al., 2009).

To construct the rank-based rejection sensitivity score, we followed the standard practice for similar scales (Kang & Chasteen, 2009; London et al., 2012; Mendoza-Denton et al., 2002, 2008; Pachankis et al., 2008) by first reversing the acceptance expectancy score and then multiplying the reversed score with rejection concern, such that RS-rank = (Rejection Concern) * (8 – Acceptance Expectancy). The rationale of taking the product term is based on the expectancy-value framework (see Feather, 1982). Specifically, the theory of rejection sensitivity (e.g., Downey & Feldman, 1996) conceptualizes this product term as reflecting rejection sensitivity as a "hot cognition" (Metcalfe & Mischel, 1999), whereby the effects of an anticipated rejection are amplified by one's anxiety about a potential negative outcome.

We then conducted an exploratory factory analysis (EFA) to examine whether these six items loaded onto a single factor. Because the analysis suggested that all but one of the items loaded onto a single factor (eigenvalue = 2.40, 39.95% of variance explained, see Table 3.1), we used a five-item measure in the main studies reported below.

Study 1: Methods

In Study 1, we tested whether rank difference would trigger the experience of rejection sensitivity (Hypothesis 1). Specifically, we examined whether participants would experience a higher level of rejection sensitivity if the networking target was of a higher rank than in the target was of a peer rank. Further, we examined whether rank manipulation would have the same effect on individuals who differed on measures of self-esteem, interpersonal sensitivity, and self-monitoring. In our conceptualization, rank difference is a significant situational factor that is likely to affect individuals' psychological experience of the anxious expectation of rejection, regardless of other

individual differences. Nevertheless, one might argue that rank-based rejection sensitivity is particularly relevant for people who have low self-esteem or who are especially sensitive to interpersonal or situational cues (i.e., self-monitoring). Thus, we included measurements of self-esteem, interpersonal sensitivity, and self-monitoring.

Participants

We recruited 203 participants who lived in the United States and spoke English as their first language (41.4% female; M_{age} = 33.46 years, *SD* = 10.58; 73.4% White, 9.0% Black, 11.6% Asian, 4.5% Hispanic, and 1.5% other) via MTurk in exchange for $1. Three participants did not complete the manipulation check item and were thus excluded from the analysis reported below. Additional analyses including these three participants yielded the same pattern of significant results.

Procedure

Participants were told that the study was about how newcomers to an organization socialize at the workplace. As part of the cover story, participants were asked to write a few words about how they would like to perform and contribute to the organization as a newcomer. Next, they were randomly assigned to one of two conditions. In the higher-rank condition, participants read a scenario about an opportunity to form a new relationship with a higher-ranking colleague in the company. In the control condition, participants read a similar scenario about an opportunity to form a new relationship with a peer in the company. Participants then responded to the rejection sensitivity scale developed in the pilot study. Following the same procedure, we constructed the rejection sensitivity score (α = .79).

Afterwards, participants were asked to complete the Positive and Negative Affect Schedule (PANAS: Watson, Clark, & Tellegen, 1988) to evaluate their current mood on a Likert scale ranging from 1 (*not at all or very slightly*) to 5 (*extremely*). To control for the

possibility that other individual differences might affect the rejection sensitivity experience, participants were asked to respond regarding a series of individual differences variables to capture individual differences in self-esteem, self-monitoring, and interpersonal sensitivity. As a manipulation check, participants were asked to compare their rank with that of the colleague in the scenario on a Likert scale ranging from 1 (*much lower than me*) to 5 (*much higher than me*). Participants also provided their demographic information.

Materials

Self-esteem. Participants completed a ten-item Rosenberg's Self-Esteem Scale (Rosenberg, 1965), which uses a Likert scale ranging from 0 (*strongly disagree*) to 4 (*strongly agree*) (α = .94, M = 2.88, SD = 0.71).

Self-monitoring. Participants completed the Self-Monitoring Scale (Gangestad & Snyder, 1985), which consists of 18 self-descriptive statements to capture several elements of social adroitness, such as concern with situation appropriateness and ability to control expressive behavior. Each of the items (e.g., "*I'm not always the person I appear to be*") requires a true or false response. We summed the true responses (some of the items were reverse coded) to create an overall score for self-monitoring (α = .90, M = 7.64, SD = 3.77).

Interpersonal sensitivity measurement. Following the prior research on rejection sensitivity (e.g., Downey & Feldman, 1996), we adopted a nine-item scale from the revised Interpersonal Sensitivity Measure (IPSM) to assess the extent to which people expect criticism or negative responses from others (Boyce & Parker, 1989; Harb, Heimberg, Schneier & Liebowitz, 2002). Participants rated these nine items (e.g., "*I feel uneasy meeting new people*," "*If other people knew what I am really like, they would*

think less of me") on a 4-point Likert scale from 1 (*very unlike me*) to 4 (*very like me*) (α = .78, M = 1.59, SD = 0.48).

Study 1: Results and Discussion

Manipulation checks. A one-way analysis of variance (ANOVA) on perceived relative rank was significant, $F(1, 199) = 223.85$, $p < .001$, $\eta_p^2 = .53$; $M_{higher\text{-}rank} = 4.73$, $SD = .65$; $M_{same\text{-}rank} = 3.45$, $SD = .56$. A one-way multivariate analysis of variance (MANOVA) on positive mood and negative mood revealed no effects of rank manipulation on participants' mood, $F(2, 198) = 1.40$, $p = .248$, $\eta_p^2 = .02$.

Rejection Sensitivity. The main effect of rank manipulation on rejection sensitivity was significant, $F(1, 199) = 7.82$, $p = .006$, $\eta_p^2 = .04$. Participants who anticipated an interaction with a higher-ranking target reported a significantly higher level of rejection sensitivity (M = 11.50, SD = 6.39) than did those anticipating an interaction with a peer (M = 9.09, SD = 5.82).

Next, we tested the main effect of rank manipulation by controlling for three variables regarding individual differences: self-monitoring, self-esteem, and interpersonal sensitivity (IPS). An analysis of covariance (ANCOVA) showed that, among the three variables, only IPS was significantly related to rejection sensitivity, $F(1, 195) = 9.13$, $p = .003$, $\eta_p^2 = .045$. Participants who were high in interpersonal sensitivity reported a higher level of rejection sensitivity in both the same-rank ($r = .21$, $p < .038$) and higher-ranking ($r = .32$, $p < .001$) conditions. There were no interaction effects between rank manipulation and IPS or between rank and the other two individual difference variables. More importantly, the main effect of rank manipulation remained significant after controlling for the three individual difference variables, $F(1, 195) = 8.23$, $p < .005$, $\eta_p^2 = .04$.

In sum, Study 1 provided initial causal evidence that organizational rank differences can evoke different levels of rejection sensitivity in the domain of professional relationships. Merely thinking about a potential interaction with a higher-ranking target evoked a higher level of rejection sensitivity compared to thinking about an interaction with a peer. This effect was observed when controlling for other important individual differences that have been linked to rejection sensitivity and social networking behavior in the past (i.e., self-monitoring, self-esteem, and interpersonal sensitivity).

Study 2: Methods

Building on the findings from Study 1, we sought to specify the underlying psychological mechanism that drives the effect of rank difference on rejection sensitivity. Organizational rank difference can be psychologically experienced as either a power difference or a status difference, or as a mixture of both simultaneously. We proposed that power (asymmetric control over valued resources), but not status (prestige and respect), was more likely to increase rank-based rejection sensitivity (Hypothesis 2). Study 2 was designed to investigate whether rank-based rejection sensitivity is indeed primarily driven by power (but not status) differences.

Participants

We recruited 253 participants who lived in the United States and spoke English as their first language (51.0% female; M_{age} = 35.60 years, *SD* = 11.42; 80.2% White, 8.7% Black, 8.3% Asian, and 2.8% Hispanic) via Amazon Mechanical Turk (Mturk) in exchange for $1.

Procedure and Materials

We used the same cover story as in Study 1, except all participants were asked to anticipate meeting with a higher-ranking colleague in the company. We manipulated whether the higher-ranking colleague was described as relatively high or low in status

versus power. Participants were randomly assigned to a condition in a 2 (hierarchy type: power, status) × 2 (level: low, high) between-subjects design. To manipulate status and power, we used Blader and Chen's (2012) approach. The high-power colleague had a large amount of resources and control over others, whereas the high-status colleague was well-respected by other colleagues and was accepted by the top management team. In contrast, the low-power colleague had a small amount of resources and little control over others, whereas the low-status colleague lacked the respect of other colleagues and was excluded from the top management team (see Appendix 3.1 for the details). Participants then completed the PANAS (Watson et al., 1988) and the same rejection sensitivity measure as in Study 1 and provided their demographic information.

Study 2: Results and Discussion

Mood check. A 2 (hierarchy type: power, status) × 2 (level: low, high) MANOVA on positive mood and negative mood found no main effect or interaction for hierarchy type or level manipulation, p_s >.5.

Rejection sensitivity. A 2 (hierarchy type: power, status) × 2 (level: low, high) ANOVA on rejection sensitivity showed a significant main effect for level, $F(1, 249) = 6.68$, $p = .010$, $\eta_p^2 = .03$; $M_{high} = 15.85$, $SD_{high} = 6.95$; $M_{low} = 13.59$, $SD_{low} = 7.13$, and a significant interaction effect between hierarchy type and level, $F(1, 249) = 6.02$, $p = .015$, $\eta_p^2 = .024$. Consistent with Hypothesis 2, the level difference was driven only by a significant difference under the power hierarchy, $F(1, 249) = 12.63$, $p = .001$, $\eta_p^2 = .048$, whereas no difference emerged under the status hierarchy, $F(1, 249) = 0.009$, $p = .93$, $\eta_p^2 < .001$. Furthermore, participants experienced a significantly higher level of rejection sensitivity when seeking to form a new tie with the high-power target than with the high-status target, $F(1,249) = 2.51$, $p = .041$, $\eta_p^2 = .02$. See Figure 3.1 for details.

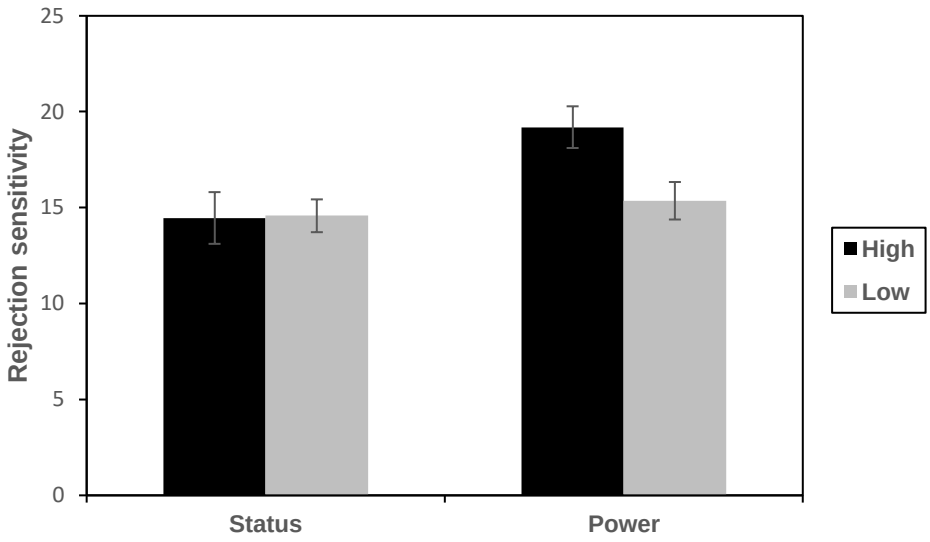


Figure 3. 1 Participants' rejection sensitivity score depending on whether the higher-ranking colleague was described as high or low in status or power (Study 2).

Note. Error bars indicate standard error of the mean.

Consistent with Hypothesis 2, rank-based rejection sensitivity was primarily driven by power difference, not status difference. Notably, in both the high-power and high-status conditions, participants anticipated an interaction with an influential higher-ranking target. However, the power difference, not the status difference, activated anxious expectations about rejection.

Study 3: Methods

Study 3 was designed to rule out an important alternative explanation for the results of Study 2. Recent work on power and status has revealed that people perceive high-power targets to be less warm compared to low-power targets (Fragale, Overbeck, & Neale, 2011). In contrast, people perceive no difference in warmth for high- and low-status targets. Thus, it is possible that the effects observed in Study 2 were not caused by power differences per se but rather by a lack of perceived warmth, which might also trigger rejection concerns (Snyder, Tanke, & Berscheid, 1977). To rule out this

alternative, we simultaneously manipulated perceived warmth and the salience of power within the hierarchy. We predicted that the effects of the power difference on increased rejection sensitivity would be independent of the target's perceived warmth.

Participants

We recruited 169 participants who lived in the United States and spoke English as their first language (57.3% female; M_{age} = 36.09 years, *SD* = 12.89; 83.6% White, 4.1% Black, 4.7% Asian, 3.5% Hispanic, and 4.1% other) via Amazon Mechanical Turk (Mturk) in exchange for $1.

Procedure and Materials

Participants were presented with the same cover story as in Studies 1 and 2. We used a 2 (trait: cold, warm) × 2 (hierarchy type: high power, control) factorial design. Participants were randomly assigned to one of the four conditions (see Appendix 3.2 for details). Much empirical work has shown that when people form first impressions of others, they are particularly sensitive to the dimension of interpersonal warmth (Asch, 1946; Fiske, Cuddy, Glick, & Xu, 2002). Therefore, we adopted a standard and straightforward manipulation by describing the target as cold or warm. To form a stringent control condition, we adapted the high-rank scenario used in Study 2. In both conditions, the target was of a higher rank, but in the control condition, we excluded any explicit discussion of power (e.g., asymmetric control of resources). The goal was to isolate the effect of power by keeping perceptions of high rank equivalent across the control and high-power conditions.

Next, participants completed the same rank-based rejection sensitivity measure as in the previous studies. Subsequently, participants completed the PANAS (Watson et al., 1988) and four manipulation check questions. Participants rated the extent to which they agreed that the target was warm, cold, of high power, and of high status on a six-point

Likert scale ranging from 1 (*absolutely disagree*) to 6 (*absolutely agree*). Participants also provided their demographic information.

Study 3: Results and Discussion

Manipulation check. The powerful target was perceived as more powerful than the control target, $F(1, 167) = 17.93$, $p < .001$, $\eta_p^2 = .097$; $M_{power} = 8.48$, $SD_{power} = 0.89$; $M_{control} = 7.87$, $SD_{control} = 0.98$, whereas there was no significant difference in perceived status, $F(1, 167) = .519$, $p = .47$. In addition, participants perceived the cold target to be colder than the warm target, $F(1, 167) = 364.35$, $p < .001$, $\eta_p^2 = .69$; $M_{cold} = 4.80$, $SD_{cold} = 1.14$; $M_{warm} = 1.81$, $SD_{warm} = 0.90$), and the warm target to be warmer than the cold target, $F(1, 167) = 326.62$, $p < .001$, $\eta_p^2 = .66$; $M_{cold} = 2.19$, $SD_{cold} = 1.00$; $M_{warm} = 4.90$, $SD_{warm} = 0.95$. The warmth manipulation did not change participants' perceptions of the target's power, $F(1, 167) = .242$, $p = .62$, or status, $F(1, 167) = .13$, $p =.73$. Consistent with past research, the power manipulation changed participants' perception of the target's warmth. The high-power target was seen as less warm than the control target, $F(1, 167) = 5.92$, $p = .016$, $\eta_p^2 = .03$; $M_{power} = 3.39$, $SD_{power} = 1.67$; $M_{control} = 4.00$, $SD_{control} = 1.62$, and colder, $F(1, 167) = 5.37$, $p = .022$, $\eta_p^2 = .03$; $M_{power} = 3.45$, $SD_{power} = 1.78$; $M_{control} = 2.81$, $SD_{control} = 1.76$.

Mood check. A 2 (hierarchy type: high power, control) × 2 (trait: cold, warm) MANOVA on positive and negative mood indicated no main effect or interaction of the trait and the hierarchy manipulations, $p_s > .1$.

Rejection sensitivity. First, we conducted a 2 (hierarchy-type: high power, control) × 2 (trait: cold, warm) ANOVA on rejection sensitivity (see Figure 3.2). The main effects of hierarchy-type manipulation, $F(1, 165) = 13.43$, $p < .001$, $\eta_p^2 = .08$, and trait manipulation, $F(1, 165) = 12.08$, $p < .001$, $\eta_p^2 = .07$, were significant, but the interaction effect was nonsignificant. Participants experienced a higher level of rejection

sensitivity when anticipating interaction with a high-power target (*M* = 20.86, *SD* = 7.18) compared to the control condition (*M* = 16.97, *SD* = 6.94). At the same time, participants also experienced a higher level of rejection sensitivity when anticipating interaction with a cold target (*M* = 20.94, *SD* = 7.69) than with a warm target (*M* = 17.24, *SD* = 6.57).

To exclude the possibility that the effect of power on rejection sensitivity was driven by the change in perceived warmth, we created a perceived warmth measure by averaging the two manipulation check items (i.e., reverse-coded perceived coldness and perceived warmth; $r = -.92$, $p < .001$). We then regressed rejection sensitivity on the power manipulation (dummy coded: 1 = high power, 0 = control), controlling for perceived warmth and gender (1 = female, 0 = male). The effect of the power manipulation on rejection sensitivity remained significant ($B = .21$, $\beta = 3.11$, $se = 1.06$, $t[164] = 2.94$, $p < .004$), and the effect of perceived warmth was also significant ($B = -.32$, $\beta = 1.36$, $se = .31$, $t[164] = 4.34$, $p < .001$).

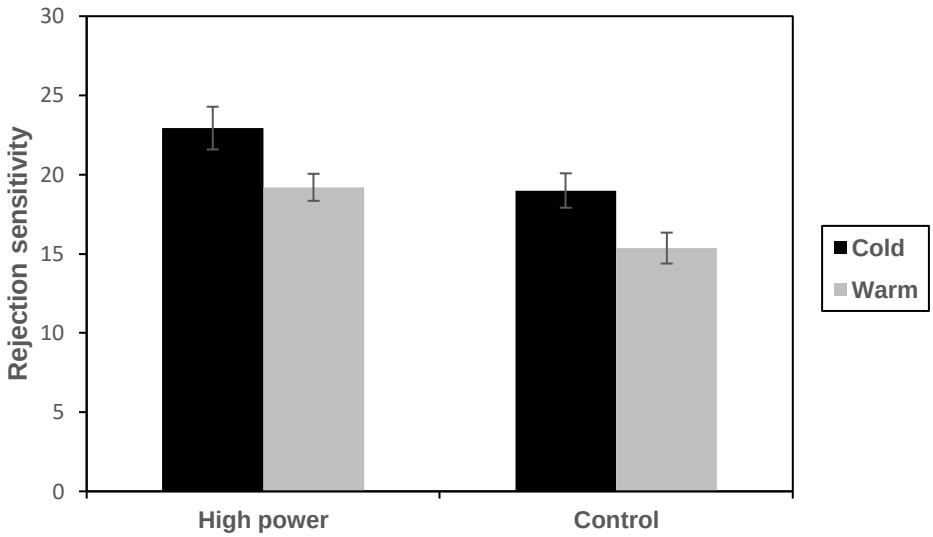


Figure 3. 2 Participants' rejection sensitivity score depending on whether the higher-ranking colleague was described as cold or warm in high power and control conditions (Study 3).

Note. Error bars indicate standard error of the mean.

Study 3 ruled out an important alternative hypothesis, as perceived differences in warmth could not account for the effects of power difference in increasing rank-based rejection sensitivity. Even when the networking target was explicitly presented as warm, the power manipulation still significantly increased rejection sensitivity compared to the control condition.

Study 4: Methods

Building on the findings from Studies 1 to 3, Study 4 further examined the downstream implications of rank-based rejection sensitivity. This study included two parts. The first part was a preliminary survey to investigate the link between rank-based rejection sensitivity and real-world outcomes. The second part was an experiment to identify how to reduce rank-based rejection sensitivity in networking contexts, given the knowledge that power differences, rather than status differences, elicit rejection sensitivity.

Preliminary Investigation

The goal of the preliminary investigation was to document the association between rank-based rejection sensitivity and the number of senior ties that one has. Prior work on rejection sensitivity has provided evidence that rejection sensitivity is associated with negative interpersonal outcomes across many domains. Individuals high in RS-personal are less likely to have successful close relationships (Berenson, Gyurak, & Ayduk et al., 2009; Downey & Feldman, 1996). Female students high in gender-based rejection sensitivity are less likely to capitalize on opportunities to gain feedback, leading to the development of self-silencing coping strategies (London et al., 2012). Minorities high in race-based rejection sensitivity have fewer White friends and distrust historically White institutions (Mendoza-Denton et al., 2002). More broadly, people experiencing a higher level of rejection sensitivity appear to selectively disengage from or even actively

disrupt social interactions (Crocker, Major, & Steele, 1998). Therefore, we predicted that rank-based rejection sensitivity would have significant implications for professionals, in that higher levels would be associated with a smaller number of senior-rank ties developed.

In this preliminary investigation, we used the same sample from the pilot study—133 master's students enrolled in a course in a major business school. In addition to completing the rejection sensitivity scale, the students also responded to a survey on the Big Five personality traits and participated in another survey two months later to measure their social network structure.

Rank-based rejection sensitivity. After completing the factor analysis in the pilot study, we created a rank-based rejection sensitivity score by averaging the first five items under the first factor (α = .70, M = 14.31, SD = 6.22). This is the same scale used in Studies 1 to 3.

Big Five personality scale. Students completed the NEO Personality Inventory (Costa & McCrae, 1985; McCrae & Costa, 1987) as part of their course requirement. The NEO Personality Inventory is a 181-item questionnaire developed using factor analysis to fit a five-dimension model of personality (Neuroticism, Extraversion, Openness to Experience, Agreeableness, Conscientiousness). The scores of the scale were standardized within the sample, ranging from 0 to 100: neuroticism (M = 49.44, SD = 10.32), extraversion (M = 53.54, SD = 10.10), openness to experience (M = 57.77, SD = 8.73), agreeability (M = 43.47, SD = 10.16), and conscientiousness (M = 56.19, SD = 10.40).

New social network ties. Two months after completing the initial surveys, all students completed a social network survey. They listed the number of new contacts they made in the two months after they joined the program. To ensure that the number was a

realistic reflection of their experience, we asked participants to "*think about the new email addresses and phone numbers that you have added to your contact book…think about the new links that you have added on LinkedIn, Facebook, and other social networking websites*."

After listing the total number, participants were then asked to identify the numbers of new contacts who were "more senior than you", "the same rank as you", "the same gender as you", and "the same racial/ethnic group as you". On average, participants reported that they had made 91 new contacts (*SD* = 80). Among them, 11.6% were senior-rank ties, 60% were peer ties, 60.8% were same-gender ties, and 53.1% were same-ethnicity ties. Overall, the pattern of new tie formation was consistent with the principle of homophily (McPherson, Smith-Lovin, & Cook, 2001), as students were more likely to establish new relationships with those similar to them demographically.

Results and Discussion

Rejection sensitivity showed a significant positive association with neuroticism ($r = .32$, $p < .001$) but not any of the other Big Five factors. Rejection sensitivity was negatively correlated with the overall number of new ties formed ($r = –.18$, $p = .04$), as well as the number of senior ties formed ($r = –.20$, $p = .02$).

To investigate our primary hypothesis regarding senior ties, we created a percentage score by dividing the total number of senior-rank ties by the total number of new ties. We regressed the percentage of new senior-rank ties on rejection sensitivity, controlling for age and gender. High (vs. low) rejection sensitivity was associated with a smaller percentage of new senior-rank ties, $B = –.19$, $t(129) = –2.32$, $p = .022$. We then repeated the same regression by adding the Big Five personality variables as control variables and obtained an even stronger pattern for rejection sensitivity, $B = –.24$, $t(124) = –2.51$, $p = .013$.

To summarize, participants with a higher level of rank-based rejection sensitivity at the start of their program made fewer new senior-rank ties two months after joining the program than did those with a lower level of rank-based rejection sensitivity. The preliminary correlational investigation provides evidence that rank-based rejection sensitivity is related to forming new professional relationships.

Main Study

To explain the rationale behind the experimental design of this study, we want to highlight two important insights from Studies 1 to 3. First, the findings suggest that the experience of rejection sensitivity in the context of forming new relationships can be significantly influenced by the situational factor of power difference. These studies go beyond previous research, which has typically studied rejection sensitivity as a stable individual difference. Second, the findings from Studies 2 and 3 suggest that interventions could possibly reduce rank-based rejection sensitivity and its related effects on tie-formation behaviors by making power less salient. In a natural setting, we suspect that people often see higher-ranking targets through a lens of both power and status. If professionals could take a more neutral perspective or focus more on status than power, their experience of rejection sensitivity would be significantly reduced. The rationale of this intervention strategy is rooted in the long tradition of the social cognitive model of interpersonal dynamics (e.g. Anderson, Reznik, & Manzella, 1996; Baldwin, 1994, 1999; Chen & Anderson, 1999): Negative emotional reactions are triggered by specific features of interpersonal situations. Thus, one way to reduce negative emotional reactions is to direct people's attention away from those features in an interpersonal situation.

More specifically, we hypothesized that when participants construe a higher-ranking target through the lens of power, they are likely to experience a higher level of rejection sensitivity and to avoid opportunities to form new ties with higher-ranking

targets. In contrast, intervention strategies that reduce participants' attention toward power characteristics should reduce the experience of rejection sensitivity and the likelihood that participants will engage in avoidance behaviors.

Participants

We recruited 227 participants who lived in the United States and spoke English as their first language (50.2% female; M_{age} =35.41 years, *SD* = 10.66; 76.7% White, 5.7% Black, 8.8% Asian, 3.1% Hispanic, and 5.7% other) via Amazon Mechanical Turk (Mturk) in exchange for $1.

Procedure and Materials

Participants were presented with a cover story similar to the ones used in the previous studies in which they were told to imagine being a newcomer to a company and having an opportunity to meet with a higher-ranking colleague. All participants read the same scenario and were asked to rate their impression of the higher-ranking colleague. Participants were randomly assigned to one of three conditions in which the three-item impression formation questions were framed in three different ways: in terms of power ("*contributes significantly to the company*," "*has control over a large amount of resources*," and "*is a powerful person in the company*"); status ("*receives a great deal of esteem within the company*," "*is well liked and respected*," and "*has high status in the company*"); or a neutral framework ("*goes to the company gym regularly*," "*works in a different department*," and "*is seen around lunch hour*"). It is important to emphasize that participants in all three conditions read the same scenario about the higher-ranking target. The only variation was in the features participants were asked to reflect on after reading the scenario.

Afterward, participants completed the same rejection sensitivity scale as in the previous studies. They were asked to imagine that they were participating in the

company's annual party, where many senior colleagues from the company were present. Subsequently, participants were asked to respond to a six-item scale developed by Beer (2002) that captures avoidance-oriented social strategies on a Likert scale ranging from 1 (*disagree strongly*) to 5 (*agree strongly*). Sample items include "*avoid eye contact*," "*find a way to keep myself occupied so I don't have to socialize*," and "*try to leave as soon as possible*." Participants also completed the PANAS (Watson, Clark, & Tellegen, 1988) and provided their demographic information.

Study 4: Results and Discussion

Mood check. A one-way MANOVA on positive mood and negative mood found no main effect across the three conditions, $p_s > .2$.

Rejection sensitivity. A one-way ANOVA on rejection sensitivity revealed a significant main effect for the intervention, $F(2, 224) = 10.20$, $p < .001$, $\eta_p^2 = .083$. Participants in the power condition ($M = 20.30$, $SD = 8.87$) experienced a significantly higher level of rejection sensitivity compared to those in the control condition ($M = 17.41$, $SD = 7.26$, $t[150] = 2.21$, $p = .028$) and those in the status condition ($M = 14.66$, $SD = 6.94$, $t[149] = 4.4$, $p = .001$). There was also a significant difference in rejection sensitivity between the status and control conditions, $t(149) = 2.38$, $p = .02$.

Avoidance intention. A one-way ANOVA on avoidance showed no direct effect of the intervention, $F(2, 224) = .204$, $p = .815$, $\eta_p^2 = .002$.

Mediation analysis. Although the intervention had no direct effect on avoidance intentions in this study, we predicted that there might be an indirect effect of the intervention via rank-based rejection sensitivity. Consistent with this theorizing, the intervention had a significant effect on rejection sensitivity, and rejection sensitivity was significantly correlated with avoidance intentions ($r = 0.25$, $p < .001$). We used the PROCESS macro (Hayes, 2013: Model 4) to test the indirect effect of the intervention on

avoidance intentions through rejection sensitivity (10,000 bootstrap samples). We first dummy coded the three conditions into two variables: power (1 = power focus, 0 = otherwise) and status (1 = status focus, 0 = otherwise). We treated power as the independent variable, rejection sensitivity as the mediator, and avoidance intentions as the dependent variable, controlling for status focus and gender. As hypothesized, the indirect effect of power on avoidance was significant, ab = .0582, SE = .0338, 95% CI = [.0098, .1462]. Controlling for rejection sensitivity, the direct effect of power on avoidance was not significant, B = .03, SE = .12, 95% CI = [–.1968, .2637].

Study 4 introduced an effective intervention to reduce rank-based rejection sensitivity in the context of forming new relationships with higher-ranking colleagues. A subtle change in attentional focus was sufficient to shift the experience of rejection sensitivity. Specifically, participants who focused on status or neutral features of a higher-ranking target experienced a significantly lower level of rejection sensitivity, and subsequently they reported a lower level of avoidance intention, relative to those who focused on power. These results suggest that, when interacting with a higher-ranking target, it may be beneficial to consider how this individual is more experienced and respected than oneself rather than focus on the resources and control he or she possesses. More broadly, this study provides evidence that cognitive reappraisal strategies (e.g., Lazarus, 1999; Mischel, 1974) are particularly useful tools for professionals when they seek to form new relationships with senior colleagues.

General Discussion

One cannot overestimate the importance of networking for professionals. From *Never Eat Alone* (Ferrazzi, 2005) to *Leaders Eat Last* (Sinek, 2014), the value of networking is sung by management scholars and business gurus alike. However, only recently has research on networks begun to reveal that many people experience

significant psychological barriers when engaging in professional networking. In the current research, we further the scientific understanding of these psychological barriers by investigating the interpersonal vulnerabilities inherent in the context of forming new professional relationships. We found that people experience a significantly higher level of rejection sensitivity when forming a relationship with a higher-ranking target than with a lower-ranking target. People with higher levels of rank-based rejection sensitivity developed fewer higher-ranking contacts over time and reported greater avoidance intentions when given opportunities to form connections with higher-ranking targets than did those with lower levels of rank-based rejection sensitivity. Our studies further revealed that rank-based rejection sensitivity is driven by the salience of power than status in an organizational hierarchy. When participants' attention was directed away from power, rejection sensitivity decreased, leading to reduced avoidance in forming new ties with higher-ranking colleagues.

Theoretical Implications

Rejection sensitivity. People who are sensitive to social rejection anxiously expect it, perceive it readily, and overreact to it (Downey et al., 1998). In this work, we extended the literature on rejection sensitivity in two major ways. First, we studied rejection sensitivity in a new domain—that of professional relationships. Second, we established that the experience of rejection sensitivity differs as a function of whether the hierarchical context makes power (vs. status) salient. We found that individuals experienced a lower level of rejection sensitivity when they perceived the organizational hierarchy from the perspective of status instead of power.

Social networking. Our findings make two novel contributions to the literature on social networking. Research on social relationships and networks has predominantly focused on established relationships–that is, relationships that have been successfully

formed and are readily observable (e.g., Azrin & Besalele, 1982; Casciaro et al., 2014; Walter et. al., 2015; Wanberg et al., 2000). However, the factors that influence efforts to establish relationships, even if unsuccessful, are important for understanding social networks. Often, many unsuccessful relationship attempts precede a successful relationship. Rejection is likely a common experience for professionals who aim to develop their social networks and form new connections. This paper begins to address this gap in the networking literature by examining the psychology of rejection in the context of relationship formation.

Findings from this paper also shed light on one of the reasons why people find it hard to network. Simply understanding the importance of networking or knowing how and where to network is not enough for people to actually engage in networking, even when they are surrounded by ample opportunities to do so. The current studies suggest that professionals experience various levels of rejection-related anxiety in the process of engaging in upward networking. In other words, networking upwards involves managing oneself as much as managing others. In order to engage in effective networking, professionals need to adopt effective strategies to manage their own anxious concerns of rejection.

Recent work has focused on integrating various psychological factors into structural analyses of networks (Brands & Kilduff, 2013; Kilduff et al., 2008; Smith et al., 2012). Much of this research has examined general predispositions (e.g., personality traits), skills (e.g., networking strategies), or perceptions of network structures and opportunities. The notion of rejection sensitivity provides a new perspective to analyze the psychology of networkers by recognizing the interpersonal nature of networking via a cognitive-affective processing lens (Downey & Feldman, 1996; Mischel & Shoda, 1995). It also provides an important framework for analyzing the notions of acceptance and

rejection that underlie professional networking. In this regard, this paper establishes the theoretical relevance and empirical importance of studying rejection sensitivity in the context of professional networking. In addition, our findings demonstrate that individuals and structures are mutually constitutive. Social actors can play an active role in shaping their social networks (Emirbayer & Goodwin, 1994; Whiting & de Janasz, 2004), and the social structure in which social actors are embedded also affects their psychological experience and, consequently, their effectiveness in shaping the social networks. For example, Michael and Yukl (1993) found that higher-level managers are more likely to engage in networking behaviors compared to their lower-level subordinates, in part because their job role affords more networking opportunities. Furthermore, a recent study showed that thinking about having money increased people's likelihood of approaching a target who would be instrumental in achieving their goals compared to not having such money priming (Teng et al., 2016). Earlier findings found that, although a growing body of research has started to highlight the importance of individual behavior in shaping the social network structure, it is also important to recognize that individual behaviors are inevitably shaped by social contextual variables. Findings from the current paper also highlight the importance of another contextual factor—power difference. Professionals experience a significantly higher level of rejection sensitivity when networking with a high-power target compared to a peer or a high-status target. In sum, the ways professionals perceive the organizational hierarchy significantly affect their psychological experience and networking behavior.

Power and status. Agency in networking behavior can be understood in the social structure within which agency emerges. Earlier research on social networking highlighted the importance of social status such as being named to an elite society, receiving recognition (Merton, 1968), or, more directly, having network centrality or high

organizational rank (Kilduff & Krackhardt, 1994). In the current paper, we differentiate social status from organizational (or social) rank by drawing on the social psychological literature that conceptualizes rank as a relatively objective hierarchical difference with two distinct psychological bases in either power (referring to asymmetric control) or status (referring to interpersonal respect).

In this regard, Casciaro et al. (2014) showed that power is a key dimension of structural position and suggested that instrumental networking does not make powerful people feel immoral in the same way that it does for powerless people. However, networking is often more beneficial for low-power individuals than for high-power individuals. Engaging in instrumental networking would allow low-power individuals to benefit from the political insights and technical knowledge gained through these relationships. Evidence from this paper suggests that instead of changing people's psychological state of power, changing the way in which they construe the situation could be a beneficial strategy. For example, viewing a higher-ranking networking contact through the perception of status can help to reduce rejection sensitivity.

Our findings also contribute to understanding power versus status differences in an interpersonal context. In a recent review, Smith and Magee (2015) proposed that power tends to distance people from others, whereas status orients people toward the needs and concerns that others have. Interestingly, one of the developmental experiences that lead to personal-based rejection sensitivity is having one's needs routinely ignored as a child by one's parents (Downey & Feldman, 1996). Those who endure this parenting style share some interesting similarities with the profile of high-power individuals discussed by Smith and Magee (2015). We suspect that some organizations may contribute to the development of rank-based rejection sensitivity within their employees. Future research should examine how certain aspects of organizational culture, such as

power distance, can affect employees' rank-based rejection sensitivity and its downstream implications.

Practical Implications

Research on RS-personal in close relationships has shown that rejection sensitivity is deeply "ingrained" (Downey & Feldman, 1996) and difficult to change. However, unlike the dynamics of a close relationship, rejection sensitivity based on race or gender differences may be modifiable with proper intervention strategies. For example, Merton (1957) emphasized the important role of institutions in this process by adopting measures and procedures that can address the concerns of the various members. For example, minority-related events can promote endorsement of minority groups. This research suggests that organizational culture and institutional policy can play a role in shaping the experience of rejection sensitivity for professionals who would benefit significantly by having more ties with senior colleagues. We believe it is be important for future research to investigate how organizations can cultivate an open and progressive culture that reduces professionals' experience of rejection sensitivity in the hierarchical context.

The research on intervention strategies is particularly important in an organizational context. As organizations strive to increase diversity, minority members at the entry level or lower ranks are likely to experience rejection sensitivity in multiple dimensions (in terms of gender, race, nationality, and organizational rank). When an organizational member of a nondominant group seeks to network upward, this individual has to overcome multiple barriers. In this regard, the domain-specific nature of rejection sensitivity enables organizational behavior researchers to examine how minority members experience barriers across various domains simultaneously in the process of developing their careers.

Limitations and Future Directions

More work is needed to understand the consequences of rejection sensitivity across a wider range of professional networking contexts, both formal and informal. Indeed, research suggests that people network differently in formal and informal settings (Shipilov et al., 2014). Further, rank-based rejection sensitivity is likely to play a key role not just in the context of professional networking but also in many aspects of other organizational behaviors. People respond to the threat of rejection in different ways: preemptively rejecting after conflict (Downey et al. 2012), self-silencing (London et al., 2012), or increasing ingratiation (Romero-Canyas et al., 2010). Future studies could examine the implications of rank-based rejection sensitivity for diverse behaviors in the workplace, such as expressing opinions, responding to feedback, and seeking advice. Finally, future studies should test our hypotheses within an organizational setting, where researchers can measure organizational members' natural networking behaviors toward their higher-ranking colleagues.

More broadly, future research could further advance the cognitive-affective perspective in social networking research. In this paper, we focused on one specific construct: rejection sensitivity. However, intra- and interpersonal dynamics are incredibly complex and can be specified in many different ways depending on the theoretical perspective (e.g., Frijda, 1993; Russell, 1980; Watson & Tellegen, 1985). There are multiple sources of affect in the context of forming a new relationship (e.g., networkers' incidental affect independent of the networking event, networkers' feelings about the networking activity, networkers' feelings about the counterpart, interpersonal dynamics). We believe that the present investigation highlights the promise of undertaking this perspective in the context of relationship formation and, more broadly, social networking.

Chapter 4 - Lay Theories of Social Relations on Mobilizing Dormant Ties

Introduction

Dormant ties, defined as long-lost relationships, provide people with valuable resources, such as novel information, answers to work-related problems, and referrals to new opportunities (Levin et al., 2011; Mariotti & Delbridge, 2012; Walter, Levin, & Murnighan, 2015). Thus, when people reconnect with and seek help from their dormant contacts, the help seekers gain critical information, become more innovative, and perform better in their jobs (Levin et al., 2011; Maoret, 2013; McCarthy & Levin, 2019). Regardless of these advantages, people are often reluctant to reconnect with and mobilize long-lost contacts. Recent work shows that even executives give up valuable resources rather than seek help from dormant contacts (Walter et al., 2015).

Not all people, however, struggle with reconnecting dormant relationships. A few studies have shown that how people reconnect depends on culture (Boase, Kobayashi, Schrock, Suzuki, & Suzuki, 2015), access to technologies (Quinn, 2013), and employees' age and job experiences (Flynn, 2005). However, this research is mainly descriptive, identifying demographic and context-specific differences. Dormant ties provide people with value once they are reactivated (but see McCarthy & Levin, 2019). Because a main barrier to reconnection is the initial act of reaching out rather than subsequent interactions (Walter et al., 2015), it is critical to understand the psychological process of how and when people come to make a decision to reconnect with dormant contacts.

The purpose of this paper is to examine the underlying psychological mechanism that explains why some people are more likely than others to reconnect with dormant

contacts and utilize resources from them. Specifically, we focus on help-seeking, “the act of asking others for assistance, information, advice, or support” (Hofmann, Lei, & Grant, 2009: 1926). Drawing on theories of lay beliefs and motivational psychology (e.g., Dweck, 1996; Kuwabara et al., 2018), we suggest a novel perspective: people’s lay theories about social relations affect how they perceive dormant relationships and seek help. Lay theories refer to people’s naive assumptions or beliefs about the malleability of human characteristics and social situations (Dweck, 1999; Kuwabara et al., 2018), such as the stability or changeability of intelligence (Mueller & Dweck, 1998). Extending this research to the context of dormant relationships, we explore whether lay theories influence how people perceive dormant contacts and seek help from them.

Our work contributes to research and theory in several ways. First, we contribute to the literature on dormant ties by examining the psychological mechanisms that underlie when and why people fail to reconnect with long-lost contacts. Drawing from the rich body of research on lay theories (Dweck, 1996), we investigate how lay theories explain heterogeneity in seeking help from dormant ties by examining people’s expectations of receiving help (Flynn & Lake, 2008) and feelings of discomfort (Casciaro, Gino, & Kouchaki, 2014; Downey & Feldman, 1996; Walter, Levin, & Murnighan, 2015). Moving beyond identifying individual attributes or context-specific predictors, our research provides a more nuanced understanding of how people make decisions to reconnect with dormant ties. Second, we extend prior research in cognitive social networks by showing that how people perceive relationships matters in utilizing the resources available from network relationships. Unlike the dominant sociological assumption that social networks can provide resources even if people are not aware of them (e.g., Cook, Emerson, Gillmore, & Yamagishi, 1983), we show that, regardless of the actual network ties people have, they may fail to perceive and utilize opportunities

available to them, depending on their beliefs. Third, we contribute to the literature on help-seeking, which has been understudied (Bamberger, 2009; Hofmann et al., 2009) and silent on individual differences, by presenting a new perspective on how lay theories shape seeking help from dormant contacts and explain when this behavior is more or less likely to occur.

Theoretical Background

Dormant Ties

People form many social relationships during their lives (Killworth, Johnsen, Bernard, Shelley, & McCarty, 1990), and as contacts increase, it becomes difficult to maintain relationships with everyone. Regardless of how close the relationships are, location changes, limited resources, and time constraints (Burt, 2002) make people lose touch with friends, acquaintances, and colleagues, and these contacts become dormant (Levin et al., 2011). A dormant tie is "a relationship between two individuals who have not communicated with each other for a long time" (Levin et al., 2011: 923). Dormant ties are different from weak ties in that people may have subjective feelings of closeness and trust toward dormant ties independent from objective disconnections over the last few years (e.g., a close high school friend one has lost touch with) (Levin et al., 2011). This makes dormant ties retain the combined benefits of both strong and weak ties. Because of discontinued interaction, dormant contacts gain nonredundant information or resources often more valuable than those from active contacts regarding innovation and high performance (Levin et al., 2011; Maoret, 2013; Vissa, 2011; Walter, Levin, & Murnighan, 2015). In addition, compared to building a new relationship, reactivating a previously established relationship characterized by trust and a shared perspective is more efficient (Levin et al., 2011).

Regardless of the value that dormant relationships can provide, people are reluctant to reconnect with dormant contacts and seek help from them (Walter et al., 2015). Recent research has shown that some people may be better at this than others (Boase et al., 2015; Flynn, 2005). Although these studies have extended our understanding of individual and situational elements that facilitate or hinder reconnection, they do not examine when and why people are motivated to reconnect with dormant contacts. We attempt to understand the heterogeneity in utilizing dormant relationships from a cognitive network perspective by investigating how people construe their inactive ties.

Network Perception

Research on cognitive social networks shows that people's perceptions of network relations are biased. Discrepancy exists between how people perceive their networks and the actual structure of these networks. For example, people fail to recognize structural opportunities, depending on their status or power (Landis, Kilduff, Menges, & Kilduff, 2018; Smith, Menon, & Thompson, 2012). In addition, people differ in their willingness to utilize the opportunities available from networks (Landis et al., 2018). A recent study showed that men and women differ in perceiving their network positions, and this difference affects their task performance through heightened threat and negative stereotypes (Brands & Mehra, 2019). Building on this research, we suggest that people's lay theories affect whether they perceive the opportunities available from dormant ties.

Lay Theories of Social Relations

Previous research on lay theories shows that people vary in their beliefs about whether human attributes and social situations are fixed or malleable (Dweck, 1996). People who endorse a fixed theory view traits are innate, whereas people who endorse a malleable theory view these traits as changeable. For instance, students who believe that

intelligence is inherent (a fixed belief) focus on outcomes. On the other hand, students who believe that intelligence is malleable and that effort toward learning matters (a malleable belief) focus on the process of reaching the goal.

The literature reveals similar patterns across a variety of social interactions, such as talking to strangers (Beer, 2002), interacting with romantic partners (Knee, 1998), and negotiating (Kray & Haselhuhn, 2007). Relatedly, recent theorizing (Kuwabara et al., 2018) extends lay theories to the domain of instrumental networking. This model argues that the extent to which people view relations as fixed (versus malleable) is related to how likely they are to have negative attitudes toward putting deliberate efforts to maintain instrumental relationships and are less likely to engage in relationship maintenance. Those who endorse a fixed theory tend to view relations as constrained by the natural compatibility between people. In this view, relationships should develop organically, and deliberate efforts to maintain relationships are unnecessary and inauthentic (Bensaou et al., 2014). Conversely, people who endorse a malleable theory have positive attitudes toward relationship maintenance because they consider it possible to build productive relationships with anyone by putting forth effort (Knee, Patrick, & Lonsbary, 2003; Kuwabara et al., 2018).

Extending this idea of lay theories and networking to the utilization of dormant contacts, in this paper, we propose that lay theories of social relations (Kuwabara et al., 2018) shape how people perceive their inactive ties and thus influence the extent to which they *expect to receive help* from dormant connections and *experience feelings of discomfort*. We argue that people with a fixed theory are likely to perceive their dormant relationships as *active*, even if no effort has been made to maintain them, because meaningful relationships require little effort and cannot be formed by individual willingness. Like those who believe true love is permanent and does not require work

(Knee et al., 2003), if a relationship was developed spontaneously, it should last regardless of maintenance effort. For people with a growth theory, relationships that have received no proper care and maintenance effort are likely to be perceived as *decayed*, even if dormancy was unintentional. In this view, even if a relationship begins with perfect compatibility, it should be cultivated with proper attention and effort. Like muscles, existing relationships grow with proper care but decay without maintenance. Importantly, departing from the dominant view of lay theory literature where it largely emphasizes the positivity of a growth theory and the downsides of a fixed theory, we argue that a fixed theory offers strength when it comes to reestablishing dormant relationships.

Expectations of Receiving Help and Feelings of Discomfort

When people seek help from dormant contacts, they are likely to experience uncertainty regarding whether the contact will help (Walter et al., 2015; Flynn & Lake, 2008; Bohns, 2016). This is partly because help is expected to be unforthcoming in the absence of direct reciprocity. People provide help to those they know and like and those who have helped them (Amato, 1990; Festinger, Schachter, & Back, 1950; Fulton et al., 1977). Without an opportunity for direct reciprocity, potential help providers may be unmotivated to offer help because the incentive is low and the effort to provide high-quality help is too costly. Given that people with a growth theory are likely to perceive their dormant ties as decayed, they would hardly expect dormant contacts to comply with a request from an “almost stranger”. However, people with a fixed theory are likely to perceive relationships they previously built as still active and likely to be fruitful.

Similarly, lay theories are also likely to affect the feelings of discomfort in seeking help from dormant contacts. In general, asking for help is uncomfortable and difficult (Bohns & Flynn, 2010; Downey & Feldman, 1996; Flynn & Lake, 2008).

Rejection involves not only being denied help but also feeling embarrassment, awkwardness, and shame (Downey & Feldman, 1996; Goffman, 1955), and this psychological discomfort becomes even more salient when seeking help from individuals with whom there has been no communication over a long period. For instrumental relationships (as opposed to friendship or kinship), the anticipation of reconnecting is likely to create additional embarrassment (Quinn, 2013) and anxiety for the requester who may fear being seen as acting inappropriately or opportunistically (Casciaro et al., 2014; Walter et al., 2015). Thus, in addition to the usual anxieties related to seeking help from active contacts (e.g., Lee, 2002), people are likely to feel that seeking help from inactive contacts is even more uncomfortable. Although people of high status are more likely than those of low status to contact others when needed (Smith et al., 2012), even executives seem to feel a high level of discomfort in seeking help from their dormant contacts (Walter et al., 2015).

We suggest that the extent to which individuals hold a growth theory is likely to influence feelings of discomfort when seeking help from dormant contacts. Those who hold a growth theory are likely to perceive dormant relationships as weak or decayed. We suggest they will feel additional discomfort about reconnecting and seeking help from dormant contacts. People who hold a fixed theory are likely to perceive dormant connections as still active. We suggest they will experience no more discomfort than when they seek help from active ties.

Help-seeking consequences

Research shows that the perceived nature of a relationship is linked to help-seeking behavior (Anderson & Williams, 1996; Blau, 1955; Borgatti & Cross, 2003; Shapiro, 1983). For example, individuals are likely to seek help from those they perceive as available (Shapiro, 1984), accessible (Borgatti & Cross, 2003; Hofmann et al., 2009),

and less likely to refuse (Blau 1955). Similarly, people fail to use existing sources of help when they perceive that seeking help is inappropriate (Nadler, 1991).

We suggest that the expectations of receiving help lead to differences in the likelihood of seeking help from dormant ties. Before seeking help, people often wonder whether a potential help-giver is likely to say yes or no to their request (DePaulo, 1982). People tend to seek help from those they perceive as unlikely to refuse (Blau 1955; Flynn & Lake, 2008). If they expect that a potential helper is likely to decline their request, individuals may withhold their request or ask someone else more likely to comply (Blau, 1955; Lee, 1997).

In a similar vein, previous research has shown that feelings of discomfort discourage help seeking (e.g., Bohns & Flynn, 2010; Downey & Feldman, 1996). To avoid discomfort, people in need of help avoid seeking help (Bohns & Flynn, 2010), even when they know that resources are available (Walter, Levin, & Murnighan, 2015).

We suggest that expectations of receiving help precede the feelings of discomfort, given that people's expectations about outcomes lead to their affective reactions (Downey & Feldman, 1996). In sum, we argue that lay theories of social relations are related to seeking help from dormant ties first through expectations of receiving help, then through feelings of discomfort. Thus, we hypothesize the following:

Hypothesis 1: The lay theory that social relations are fixed is positively associated with the likelihood of seeking help from dormant contacts.

Hypothesis 2: The relationship between lay beliefs of social relations and help-seeking from dormant contacts is sequentially mediated by expectations of receiving help and by feelings of discomfort.

Specifically, the extent to which people hold the lay theory that social relations are fixed is positively associated with the likelihood of seeking help from dormant

contacts via increased expectations of receiving help and feelings of discomfort in seeking help, respectively.

Figure 4. 1 summarizes our theoretical model.

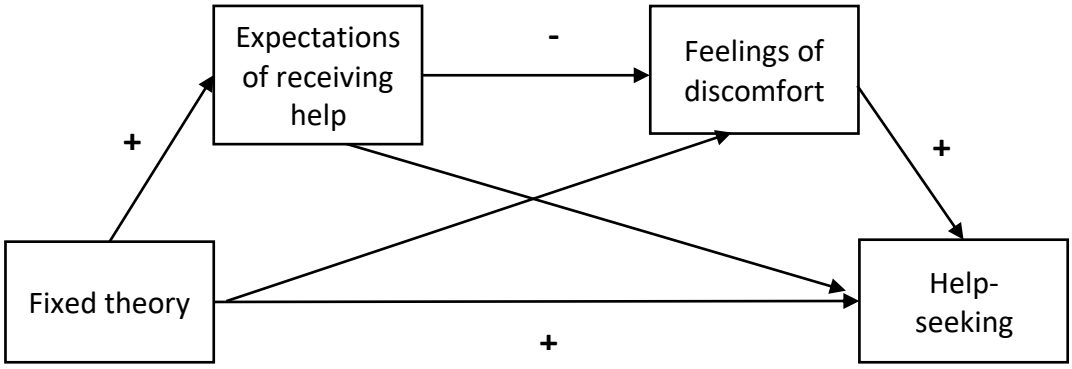


Figure 4. 1 Theoretical Model

Overview of Studies

We tested our hypotheses using correlational and experimental designs. In Study 1, we tested our full theoretical model using a dormant-tie scenario. In Study 2, we experimentally manipulated lay theories of social relations and tested the causal relationship between lay theories and help-seeking.

Study 1: Methods

Study 1 had two goals. First, it aimed to test whether the more that individuals believe a fixed theory of social relations, the more likely they are to engage in seeking help from a dormant contact. Second, the study aimed to test whether the relationship between a fixed theory of social relations and help-seeking is sequentially mediated by expectations of receiving help and feelings of discomfort.

Participants

We recruited 156 individuals from the United States on Amazon Mechanical Turk (MTurk) in exchange for $1.00 to take a short survey on professional relations people

build at work. A total of 32 people failed the attention check and were excluded. The final sample included 124 participants (M_{age} = 34.23 years, SD_{age} = 11.26; 57.26% male; 79.03% White, 7.26% Black, 4.84% Hispanic, 8.06% Asian; education level: 11.29% high school, 39.52% some college, 42.74% college, 5.65% graduate degree; $M_{\text{work experience}}$ = 12.60 years, $SD_{\text{work experience}}$ = 9.25; current employment: 63.71% full-time, 9.68% part-time, 5.65% self-employed).

Procedures and Measures

Fixed theory of social relations. First, participants indicated on a 6-point scale (1 = *strongly disagree* to 6 = *strongly agree*) the extent to which they agreed with statements regarding social relationships on the basis of compatibility versus malleability. We measured participants' lay theories using the 5-item Lay Theory of Social Relations scale (Kuwabara & Cao, working paper) (α = .89). The scale was recently developed and validated to measure beliefs of compatibility (i.e., a fixed theory) relative to malleability (i.e., a growth theory) in instrumental relations (see Table 4.1 for items). We created a composite measure of a fixed theory by averaging the five items so that higher scores indicated a stronger belief in a fixed theory.

Help-seeking scenario. Next, participants read a scenario in which they imagined they were searching for a referrer on LinkedIn who could write a job recommendation letter for them. Participants read that they had an opportunity to contact a dormant connection working for the company they wanted to apply for. Participants were told it would require about an hour of the dormant contact's time to write a letter for them. Previous research has defined dormancy based on behavioral interactions in which no communication occurs between two people for at least three years (Levin et al., 2011; Walter et al., 2015). Thus, in the scenario, the dormant contact was described as a

professional contact that participants used to work with but have not communicated with for more than five years.

Expectations of receiving help. We measured participants' expectations of receiving help from the dormant tie with two items on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*): "Jim [dormant contact] will be happy to spend 60 minutes writing a letter for me" and "Jim [dormant contact] will feel awkward about having to write a letter for me" (r = .60). We created a composite measure by averaging the scores of the two items. The latter item on the scale was reverse scored so that higher scores indicated higher expectations of receiving help.

Feelings of discomfort. We measured participants' feelings of discomfort with four items on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*) adopted from a discomfort scale (Bohns & Flynn, 2010). Participants indicated the extent to which they would feel psychological discomfort when asking the dormant contact for a recommendation letter: "I would feel comfortable," "I would feel embarrassed," "I would feel awkward," and "I would feel confident" (α = .88). We created a composite measure by averaging the scores of the four items. Two items on the scale were reverse scored so that higher scores indicated higher levels of discomfort.

Help-seeking. Participants indicated the extent to which they would seek help from the dormant contact to get the recommendation letter with three items on a 5-point scale (1 = *definitely not*, 5 = *definitely*). The items included the following: "I would contact Jim," "I would send Jim a message to ask for a reference," and "I would seek help from Jim" (α = .95). We created a composite measure by averaging the scores of the three items.

Controls. As was done in previous studies (e.g., Downey & Feldman, 1996; Ji et al., 2017), we controlled for several related individual differences using the Social

Anxiousness Scale (Leary, 1983), the Individualism and Collectivism Scale (Triandis & Gelfand, 1998), the 13-item Self-Monitoring Scale (Lennox & Wolfe, 1984), the Ten-Item Personality Measure (TIPI: Gosling, Rentfrow, & Swann, 2003), and the following demographic information: age in years, gender (male = 1, female = 0), race (1 = white to 5 = others), education (1= high school or below to 5 = PhD), and employment (1 = full-time to 7 = others).

Study 1: Results and Discussion

We conducted an EFA of the five Lay Theories of Social Relation scale items. The results based on the scree-plot (one point), Kaiser eigenvalues, and pattern matrix (Fabrigar et al., 1999; Hinkin, 1998), identified one factor (eigenvalue = 3.17, all items loadings > .74) (α = .89), as shown in Table 4.1. Next, we compared the observed eigenvalues to the 95th percentile of the eigenvalues yielded from randomly estimated data by parallel analysis (Hayton et al., 2004; Horn, 1965). The parallel analysis generated the following results: 95th percentile eigenvalue 1 = 1.36; 95th percentile eigenvalue 2 = 1.21. The results from EFA and parallel analysis together identified a single factor.

Table 4. 1 EFA Results for Lay Theories of Social Relations Scale

Scale Items	Factor Loadings
1. A productive relationship is unlikely if it does not develop naturally and effortlessly.	.84
2. The basis of a productive relationship is chemistry, like how naturally and effortlessly you get along with a person, not how hard you try to get along.	.82
3. Like marriage without love, a relationship between co-workers without chemistry is likely to not work well.	.81

4. The best sign of a productive relationship is how organically and effortlessly it develops, not how much effort you put into it.	.76
5. How well you work with someone is largely a matter of chemistry and is not something you can control or change easily.	.74
Eigenvalues	3.17
Coefficient alpha	.89

Table 4.2 presents means, standard deviations, and correlations among the variables. Hypothesis 1 suggested that a fixed theory of social relations is positively associated with help-seeking. However, the correlations in Table 4.2 show that there was a non-significant relationship between a belief in a fixed theory and help-seeking (r = -.06, *ns*). On the other hand, providing preliminary support for Hypothesis 2, the extent of participants' expectations of receiving help (r = .62, p < .001) and feelings of discomfort (r = -.64, p < .001) related significantly to help-seeking. There was also a negative relationship between expectations and feelings of discomfort (r = .36, p < .001). In addition, it may be worthwhile to note that females (r = -.19, p < .05), extraverts (r = .20, p < .05), and self-monitoring orientations (r = .19, p < .05) were significantly correlated with help-seeking. Consistent with prior research, the results suggest that females (versus males) were likely to avoid opportunities (Brands & Fernandez-Mateo, 2016; London et al., 2012), and people with certain personalities are likely to be effective at utilizing resources for career advancement (Fang et al., 2015).

Table 4.3 presents the results of multiple regressions. We controlled for individual differences across all models. Hypothesis 1 was not supported. The regression results from Model 5 showed a non-significant relationship between a belief in a fixed theory and help-seeking (b = -.04, SE = 0.11), t(94) = -.39, *n.s*.

Although there was no significant main effect, following recent statistical suggestions that the significance of the total effect is not a prerequisite for tests of mediation (Hayes, 2013), we tested Hypothesis 2's prediction that the relationship between a fixed theory of social relations and help-seeking is sequentially mediated by expectations of receiving help and feelings of discomfort (Hayes, 2013; Shrout & Bolger, 2002). We applied the bootstrap method to construct bias-corrected 95% confidence intervals of the indirect effects based on 5,000 random replacements from the full sample (Hayes, 2013), controlling for individual differences. By testing for a three-path mediated effect (Hayes, 2013: Model 6), we were able to test the indirect effect passing through both mediators in a series (Taylor, MacKinnon, & Tein, 2008). Supporting Hypothesis 2, the indirect effect of a fixed theory of social relations on help-seeking via expectations of receiving help and feelings of discomfort was significant, effect size = .05, *SE* = .03, 95% CI [.01, .13]. Figure 4.2 provides the estimates from the path coefficients.

In summary, Study 1 provided initial evidence that a belief in a fixed theory was associated with heightened expectations of receiving help and reduced feelings of discomfort, which were related to higher levels of help-seeking from dormant ties. However, the results from Study 1 did not support Hypothesis 1. In this study, we only offered participants the opportunity to reconnect with dormant contacts without a contrast group (i.e., active contacts). It is possible that participants, regardless of the extent to which they endorsed a fixed theory, might have experienced similar levels of difficulty when seeking help in the scenario because seeking help (regardless of whether the relationship is perceived as active or decayed) evokes psychological barriers and is difficult to do (Bohns & Flynn, 2010). Therefore, in Study 2, we examined whether participants chose one type of relationship (an active tie) over the other (a dormant tie) when seeking help (i.e., a trade-off choice). A trade-off choice also strengthens the

external validity of our study, because in an actual job referral context, job-seekers can choose only one or a limited number of referrers among their contacts.

Table 4. 2 Descriptive Statistics and Correlations (Study 1)

Variable	mean	*SD*	1	2	3	4	5	6	7	8	9	10
1. Gender [a]	0.43	0.50	–									
2. Age (years)	34.23	11.26	.05	–								
3. Education [b]	2.45	0.80	.02	.06	–							
4. Employment [c]	2.35	2.22	.19*	-.07	-.08	–						
5. Race [d]	1.47	1.00	.02	-.11	-.04	-.12	–					
6. Extraversion	3.62	1.77	-.15	.04	.12	-.21*	.02	–				
7. Agreeableness	5.18	1.21	-.03	.07	-.10	-.14	-.01	.09	–			
8. Conscientiousness	5.27	1.29	.09	.23*	.19*	-.15	-.02	.14	.34**	–		
9. Emotional stability	4.75	1.59	-.23	.25**	.09	-	.10	.32**	.32**	.40***	–	
10. Openness	4.94	1.19	-.05	.01	-.08	.13	.03	.26**	.20*	.07	.09	–
11. Social Anxiousness	2.88	1.00	.19*	-.25**	-.11	.24**	-.15	-.69***	-.14	-.34**	-.64***	-.26**
12. Horizontal individualism	5.47	1.23	.01	.04	-.13	.05	-.01	.10	.17	.37***	.03	.23*
13. Vertical individualism	4.04	1.09	-.09	-.01	-.14	-.07	.08	.00	-.05	.14	-.08	-.02
14. Horizontal collectivism	5.03	1.17	.06	.19*	.05	-.05	-.07	.29**	.50***	.35**	.27**	.27**
15. Vertical collectivism	4.86	1.25	.05	.13	.05	-.08	-.14	.18*	.37***	.25**	.31**	-.01
16. Self-Monitoring	4.48	0.56	.07	-.05	-.02	.08	.03	.22**	.15	.27**	.15	.20*
17. Fixed theory	3.60	1.05	-.28**	-.17	-.09	.11	.02	.00	-.10	-.05	-.13	-.05
18. Expectations	4.15	1.30	.07	.09	.09	-.06	-.01	.23**	.13	.08	.17	.02
19. Discomfort	4.19	1.38	.22*	.00	-.04	.18	.06	-.35**	-.07	-.07	-.32**	-.02
20. Help-seeking	3.73	1.02	-.19*	.11	.06	-.15	-.03	.20*	.06	.07	.33**	.11

Note. N = 124. Two-tailed tests. [a] 1 = male, 0 = female; [b] 1 = high school or below to 5 = PhD; [c] 1 = full-time to 7 = others; [d] 1 = White to 5= others.

* $p < .05$ ** $p < .01$ *** $p < .001$.

Table 4. 2 Descriptive Statistics and Correlations (Study 1) (Continued)

Variable	mean	*SD*	11	12	13	14	15	16	17	18	19	20
1. Gender [a]	0.43	0.50										
2. Age (years)	34.23	11.26										
3. Education [b]	2.45	0.80										
4. Employment [c]	2.35	2.22										
5. Race [d]	1.47	1.00										
6. Extraversion	3.62	1.77										
7. Agreeableness	5.18	1.21										
8. Conscientiousness	5.27	1.29										
9. Emotional stability	4.75	1.59										
10. Openness	4.94	1.19										
11. Social Anxiousness	2.88	1.00	–									
12. Horizontal individualism	5.47	1.23	-.02	–								
13. Vertical individualism	4.04	1.09	.02	.26**	–							
14. Horizontal collectivism	5.03	1.17	-.28**	.26**	.12	–						
15. Vertical collectivism	4.86	1.25	-.13	.15	.23**	.63***	–					
16. Self-Monitoring	4.48	0.56	-.24**	.38***	.34**	.33**	.27**	–				
17. Fixed theory	3.60	1.05	.11	.05	.26**	-.23*	-.01	.17	–			
18. Expectations	4.15	1.30	-.23*	.02	.03	.36***	.40***	.09	.12	–		
19. Discomfort	4.19	1.38	.39***	.07	-.05	-.28**	-.29**	-.16	.05	-.69***	–	
20. Help-seeking	3.73	1.02	-.27**	-.01	.01	.30**	.25**	.19*	-.06	.62***	-.64***	–

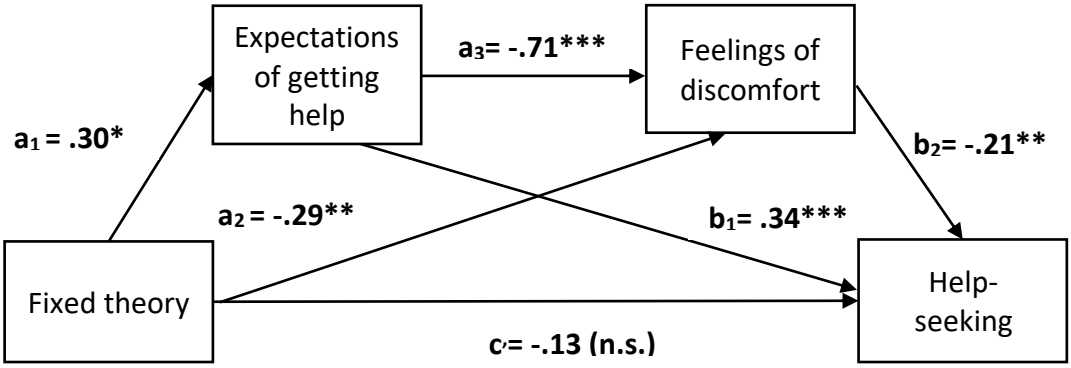
Note. N = 124. Two-tailed tests. [a] 1 = male, 0 = female; [b] 1 = high school or below to 5 = PhD; [c] 1 = full-time to 7 = others; [d] 1 = White to 5= others.

* $p < .05$ ** $p < .01$ *** $p < .001$.

Table 4. 3 Regression of Fixed Theory on Help-seeking (Study 2)

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Fixed theory		-0.04	-.19*	0.01	-0.10
		(0.11)	(0.09)	(0.09)	(0.09)
Expectations			0.48***		0.30***
			(0.06)		(0.09)
Discomfort				-0.45***	-0.25**
				(0.06)	(0.08)
Control variables					
Age (years)	-0.00	0.00	0.00	0.01	0.01
	(.01)	(0.01)	(0.01)	(0.01)	(0.01)
Gender	-0.35+	-0.38+	-0.31+	-0.16	-0.21
	(0.20)	(0.22)	(0.17)	(0.18)	(0.17)
Race	included	included	included	included	included
Education	included	included	included	included	included
Employment	included	included	included	included	included
Extraversion	-0.03	-0.03	-0.01	-0.03	-0.02
	(0.08)	(0.08)	(0.06)	(0.07)	(0.06)
Agreeableness	-0.14	-0.14	-0.12	-0.08	-0.10
	(0.10)	(0.10)	(0.08)	(0.08)	(0.08)
Conscientiousness	-0.09	-0.09	-0.05	-0.05	-0.04
	(0.10)	(0.10)	(0.08)	(0.08)	(0.07)
Emotional stability	0.15	0.15	0.18*	0.14+	0.16*
	(0.10)	(0.10)	(0.08)	(0.08)	(0.07)
Openness	0.03	0.03	0.06	0.08	0.07
	(0.09)	(0.09)	(0.07)	(0.07)	(0.07)
Social anxiousness	-0.00	-0.00	0.17	0.21	0.22
	(0.18)	(0.18)	(0.15)	(0.15)	(0.14)
Horizontal individualism	-0.05	-0.05	-0.05	0.01	-0.01
	(0.09)	(0.09)	(0.07)	(0.08)	(0.07)
Vertical individualism	-0.10	-0.09	-0.02	-0.10	-0.05
	(0.11)	(0.11)	(0.09)	(0.09)	(0.08)
Horizontal collectivism	0.22+	0.21	0.04	0.12	0.06
	(0.12)	(0.13)	(0.10)	(0.10)	(0.10)
Vertical collectivism	0.10	0.10	-0.05	-0.00	-0.05
	(0.11)	(0.11)	(0.09)	(0.09)	(0.08)
Self-Monitoring	0.37+	0.38+	0.47**	0.26	0.37*
	(0.20)	(0.21)	(0.16)	(0.17)	(0.16)
Constant	1.52	1.62	1.19	2.79*	1.19
	(1.46)	(1.49)	(1.21)	(1.22)	(1.25)
R_2	0.09+	0.29	0.55***	0.54***	0.59***
df	[27, 96]	[28, 95]	[29, 94]	[29, 94]	[30, 93]

Note. N = 124. Standard errors are in parentheses. All tests are two-tailed. All models include age (in years), gender (1 = male, 0 = female), race (White, Black, Asian, Hispanic, other), education (high school or less, some colleague, bachelor's degree, master's or professional degree, PhD), and employment status (full time, part time, self-employed, unemployed, retired, student, other). No demographic covariate is statistically significant in any model.
+ $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$.



N = 124. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Figure 4. 2 Three-Path Mediation Model (Study 1)

Study 2: Methods

Study 1 is limited, because we did not find an association between a fixed theory and help-seeking. Study 2 had two goals. First, it aimed to test a link between lay theories of social relations and help-seeking in a trade-off choice. Second, the study aimed to test the causal effect of lay theories of social relations on help-seeking by experimentally manipulating lay theories of social relations.

Participants

We recruited 149 individuals from the United States on Amazon Mechanical Turk (MTurk) in exchange for $0.75 to take a short survey on professional relations. A total of 39 people failed the attention check and were excluded. The final sample included 110 participants (M_{age} = 35.19, SD_{age} = 11.98; 59.09% male; 83.64% White, 3.64% Black, 6.36% Hispanic, 6.36% Asian; education level: 10.00% high school, 42.73% some college, 32.73% college, 14.55% graduate degree; $M_{work\ experience}$ = 12.37 years, $SD_{work\ experience}$ = 9.11; current employment: 58.18% full-time, 8.18% part-time, 2.73% self-

employed). Participants were randomly assigned to either the fixed or malleable theory manipulation condition.

Procedure and Measures

Lay theory of social relations manipulation. Prior work has shown that lay theories can be induced in participants (Chiu, Hong, & Dweck, 1997; Kray & Haselhuhn, 2007). Following prior research, we adopted a biased questionnaire protocol (Job, Dweck, & Walton, 2010). Participants in the fixed theory condition were presented with statements claiming that professional relations are largely constrained by natural compatibility between people. In the malleable theory condition, participants were presented with statements claiming that professional relations can grow under proper care, like muscles can. The statements in each condition were adopted from the Lay Theories of Social Relations scale items.

Participants then responded on a 5-point scale (1 = *slightly agree*, 2 = *somewhat agree*, 3 = *moderately agree*, 4 = *strongly agree*, 5 = *completely agree*). The scale manipulated respondents' perspectives because only agreement options were provided; there was no option to disagree. To strengthen the effect of the manipulation, we asked participants to describe one or two ways in which the presented statements applied to their own professional relationships.

Alternative choice scenario. Next, participants were given a scenario in which they imagined themselves as job seekers looking for someone to write a letter of recommendation for them. Specifically, participants were given an option to choose between two former bosses (one a dormant contact and one an active contact) (Chen, Ellsworth, & Schwarz, 2015). The dormant contact was described as a former boss who was well connected in the field participants were interested in but whom participants had not talked to for over seven years. The active contact was described as a former boss who

had relatively little experience in the field but whom participants still interacted with. Importantly, participants were told they could choose only one referrer for their recommendation letter. That is, participants were asked to make a trade-off choice between *dormant-tie resources* critical for getting a job; and *active-tie psychological comfort* from the high likelihood of receiving help.

Participants indicated who they would contact on an 8-point scale where 1 indicated the strongest preference for the dormant contact and 8 indicated the strongest preference for the active contact (1 = *definitely [name of dormant tie]*; 4 = *neutral*; 8 = *definitely [name of active tie]*) (Chen et al., 2015).

Manipulation check. To assess the effectiveness of the lay theory manipulations, we asked participants to indicate the extent to which they agreed with the three fixed theory items in Table 4.1 (items 1-3). We created a composite measure by averaging scores of the three items (α = .73). Lastly, participants responded to a series of demographic questions (age, gender, race, education level, and employment status).

Study 2: Results and Discussion

First, we tested whether our manipulation was effective. Participants in the fixed theory condition reported significantly stronger agreement on a composite measure of fixed theory manipulation check items (M = 4.58, SD = .16) compared with participants in the growth theory condition (M = 3.66, SD = .17), $t(108) = -.40$, $p < .001$, 95% CI [-1.26, -.58], d = .92.

Next, to test Hypothesis 1, we assessed participants' choices regarding seeking help from a dormant versus an active tie. In support of Hypothesis 1, participants in the fixed theory condition chose contacting a dormant connection (M = 3.53, SD = .28), whereas those in the growth theory condition chose contacting an active contact (M = 4.53, SD = .31), $t(108) = 2.37$, $p = 0.019$, 95% CI [.18, .83], d =.51.

Study 2 supports our causal argument that lay theories of social relations can be manipulated, and this manipulation effect extended to measurable consequences for participants' choices between dormant and active contacts. When given a choice, participants manipulated with a fixed theory were more likely to seek help from dormant ties for resources. On the other hand, those manipulated with a growth theory were more likely to trade off the critical resources needed to get a job that they could have obtained from the dormant contact in exchange for the comfort of interaction with an active contact.

General Discussion

Dormant ties provide individuals with many advantages once they are reactivated (e.g., Levin et al., 2011), but we know little about who perceives opportunities from dormant ties and mobilizes them. In the current research, we argue that considering people's lay theories about social relations (Kuwabara et al., 2018) can help explain the variations in who reaps benefits from inactive connections. We suggest that lay theories of social relations, beliefs about whether relationships are rooted in compatibility or commitment, shape how people construe and seek help from their dormant contacts. Furthermore, we suggest that the relationship between lay theories of social relations and seeking help from dormant contacts is sequentially mediated by expectations of receiving help and feelings of discomfort.

Across two studies, we found support for the importance of lay theories. In Study 1, although there was no direct association between a fixed theory of social relations and help-seeking, we found that this relationship was sequentially mediated by expectations of receiving help and feelings of discomfort. The more participants believed in a fixed theory, the higher their expectations of receiving help and the lower their discomfort level in seeking help. Both expectations and discomfort were significantly associated with

help-seeking. In Study 2, using an experiment, we manipulated lay theories of social relations and found support for a causal relationship. People assigned to the malleable theory condition, relative to those assigned to the fixed theory condition, were less likely to seek help from dormant ties, even giving up valued opportunities such as the probability of getting a job. Our result suggests a partial but promising answer to why individual differences in seeking help from dormant ties exist.

Theoretical Implications

Our theory and findings make several contributions to the literature. First, our research contributes to the theory and research on dormant ties. Although research has shed light on the types of benefits that dormant ties provide (Levin et al., 2011; Moate, 2015; Walter et al., 2015), our understanding of why some people utilize dormant ties more than others is limited. By introducing lay theories of social relations, we show that people may fail in perceiving and mobilizing the valuable existing resources from dormant ties. Although prior work has identified the heterogeneity that exists in reconnecting dormant ties (Boase et al., 2015; Flynn, 2005; Quinn, 2013) and pointed out potential psychological barriers to reconnecting (Walter et al., 2015), to our knowledge, this study is one of the first attempts to empirically investigate the underlying psychological mechanisms. Given that dormant ties have substantial consequences on outcomes such as on organizational commitment (McCarthy & Levin, 2019), it is important to understand how people cognitively perceive and process dormant ties.

Second, our research contributes to research and theory on cognitive social networks by showing that how people understand and construe the nature of relationships matters, and these factors can have significant consequences for mobilizing the resources dormant ties offer. Although dormant contacts provide valuable opportunities for accessing social capital, the possession of a dormant connection does not indicate if the

resources will or will not be utilized (Adler & Kwon, 2002: 25). Because realizing that network resources exist is the first step to utilizing the resources (Smith et al., 2012), it is important to understand who fails to perceive and act on these existing opportunities (Landis et al., 2018). Indeed, recent research shows that people differ in construing their social networks and that these differences affect task performance (Brands & Mehra, 2019). Our findings contribute to this emerging line of research by showing that lay theories people hold about social relations are important for understanding 1) whether they are aware of the opportunities provided by dormant ties and 2) their willingness to act on these opportunities. In doing so, we also respond to the recurring call of individual agency in instrumental relationships (Casciaro et al., 2014).

Third, we contribute to the understanding of help-seeking at the workplace, a topic that has been largely neglected in literature compared to well-established work on help-giving (Bamberger, 2009; Hofmann et al., 2009). We introduce a novel perspective, the impact of lay theories, as an antecedent of help-seeking behaviors. By doing so, we not only advance the theory of help-seeking literature but also identify an individual difference in help-seeking, which has been surprisingly less studied. In particular, by focusing on interpersonal dynamics of help-seeking (e.g., Flynn & Lake, 2008), we help to balance the literature, which predominantly emphasizes the cost-benefit trade-off model (Hofmann et al., 2009; Lee, 2002; Nebus, 2006) in which emotions, such as discomfort, are neglected. As previously noted, however, emotions play an important role in people seeking help beyond the cost-benefit calculation (Casciaro & Lobo, 2005, 2008). In that sense, our research also adds to the development of a “richer psychological theory to supplement the overreliance on rational choice models of individual behavior in social network research” (Kilduff & Brass, 2010: 336).

Additionally, we contribute to the research on lay theories. Regardless of the extensive research in motivational psychology (Dweck, 1996, 2006), lay theories have been neglected in the social network literature. We show that people hold different theories about social relations, and depending on their beliefs, lay theories can have significant consequences for how they deal with instrumental relationships. In particular, in contrast to the prevailing negative view concerning a fixed theory in lay belief literature (Dweck, 2006; Mueller & Dweck, 1998), we show how a fixed theory can help people detect and utilize valuable existing network resources.

Limitations and Future Directions

Our findings suggest several avenues for future research. First, researchers could examine both the maintenance of social ties and the perception of dormant ties together. It may be that people who subscribe to a malleable theory perceive dormant ties as decayed, not because they cannot maintain the contacts but because they choose to let them decay (Kleinbaum, 2018). People selectively choose which ties to retain during role transitions and career changes (Jonczyk, Lee, Galunic, & Bensaou, 2015). Although in the current paper we assumed that dormant ties are not the relationships intentionally discarded but those that result from spontaneous situations or circumstances (e.g., job change, time constraints), we need to better understand these differences–dormant ties that result from one's choices and one's circumstances. It is possible that people who endorse growth theory may intentionally stop engaging in tie maintenance with a contact because they find the relationship to be of no value. In that case, people may find no value in reconnecting with their dormant ties or feel more discomfort and less confidence in reconnecting with them. Although in the present research we ruled out the former possibility by randomly assigning people to different lay theory conditions, future research could explore how lay theories affect tie maintenance and how it interacts with

perceiving dormant ties.

Another direction for subsequent work would be to investigate more tangible behavioral consequences of lay theories of social relations. Although our research examined help-seeking behavior, it involved an intention rather than actual behavior. Future studies could benefit from investigating tangible behavioral consequences of lay theories, perhaps such as referral requests via LinkedIn or executives' advice-seeking behaviors within and across organizations (Alexiev, Volberda, Jansen, & Van Den Bosch, 2019). Furthermore, an organizational context such as organizational hierarchy should be examined together in future work on mobilizing ties (Brennecke, 2019). Additional work can be done to understand the consequences of lay theories of social relations for other aspects of reconnecting. People may contact dormant ties for variety of reasons from seeking advice, referrals, to learn specific information (Levin et al., 2011; Walter et al., 2015), and it would be beneficial to examine whether the patterns we found in our study hold across different types of help-seeking domains.

Another potential avenue for future research is the benefits of misperceptions of networks. According to the Thomas Theorem, what people perceive reality becomes reality (Thomas & Thomas, 1928). And our subsequent actions depend on how we interpret the reality of a situation. Network research has traditionally emphasized the benefits of accurately perceiving social networks (e.g., Janicik & Larrick, 2005; Smith et al., 2012). However, our findings indicate that people may benefit from misperceiving their own networks. Some people may perceive a decayed relationship as still active and thus seek help from the contact. If the contact is the best person to provide resources, regardless of tie existence, the help-seeker may obtain the needed resources by reconnection because, contrary to the general assumption, it is difficult to reject someone's help request (Bohns, 2016; Flynn & Lake, 2008). Going one step further, our

study indirectly implies that ties that are perceived or imagined (Kumbasar, Rommey & Batchelder, 1994)–whether they are misperceptions or not–may matter more than actual ties when it comes to acting on network opportunities. Future research could benefit by examining consequences of misperceptions of advantageous social network positions such as brokerage (Brands & Kilduff 2014; Landis et al., 2018).

Although the advantages of dormant ties are well known, we know little about who benefits from them. Drawing on the theories of lay beliefs, we show that people may see the same dormant ties differently depending on their lay theories of social relations, which ultimately lead to positive and negative consequences for utilizing social capital. The overarching message of this research is that where people stand on beliefs about whether social relations are fixed or malleable can have profound consequences for their subsequent network mobilization.

Chapter 5 - General Discussion

In recent years, organizational social network research has called for the integration of individuals' psychology into social networks (Casciaro et al., 2015; Tasselli et al., 2015). The large variance in returns of advantageous network positions (Burt et al., 2013) may not be fully understood without considering the characteristics of the individuals. For example, to advance our understanding of brokerage, we need to pay attention to the social-psychological process at microlevel interactions (Stovel & Shaw, 2012). In a similar vein, while network ties provide opportunities to gain benefits, individuals vary in how they derive resources from social relationships (Kilduff, 1992). Why individuals differ in how they benefit from similar social network opportunities?

Taking the micro-foundations of social network view (Tasselli et al., 2015), I examine this core question in three distinctive research papers. Adopting multiple theoretical perspectives and empirical methods, I address the question of the consequences of pursuing seemingly advantageous network positions and the antecedents of forming and utilizing advantageous network relationships. Following the specific discussions in the preceding chapters, I briefly summarize the findings and highlight the broader implications of this thesis below.

In Chapter 2, I focus on the psychological costs and behavioral consequences of the pursuit of different types of brokerage. I show that engagement in a divide-between brokerage, relative to catalyst brokerage, leads to a higher level of burnout, resulting in more abusive behaviors. Findings in Chapter 2 suggest that although divide-between brokerage may be advantageous from the structural perspective because it maintains the gap between disconnected people, it is psychologically taxing and behaviorally detrimental. This chapter contributes to balancing the largely positive view of the advantageous network structures with an examination of the types of brokerage that are

likely to incur costs for the individuals and their colleagues beyond the people who are being brokered.

In Chapter 3, I move from the consequences of advantageous network behaviors to the other end of the spectrum – the antecedents of forming network ties that can provide individuals benefits. I examine rejection anxieties inherent in the context of organizational hierarchy (i.e., rank-based rejection sensitivity) that prevent people from building new instrumental relationships. I show that people experience a higher level of rejection sensitivity when forming a relationship with a higher-ranking target compared to a peer-ranking target and people with higher levels of rejection sensitivity develop a smaller number of higher-ranking ties, which could be critical to their career advancement. By examining the psychology of rejection in the context of tie formation, I address how a situationally evoked psychological barrier affects an individual agency in building advantageous social networks (Bensaou, Galunic, & Jonczyk-Sédès, 2014). I show that some people fail to form advantageous network ties even when they are surrounded by opportunities to do so. In addition, this finding contributes to the body of knowledge in the area of social networks and emotions, which is still relatively less studied in network literature (Tasselli et al., 2015).

While Chapter 3 examines why people are unsuccessful in building *new* network opportunities (i.e., high-rank connections), Chapter 4 explores why people fail to utilize *existing* network opportunities (i.e., dormant ties). Drawing on lay beliefs of social relations (Dweck, 1996; Kuwabara et al., 2018), I show that depending on the type of lay beliefs, people perceive the dormancy of their network relationships differently (i.e., whether they are still active or decayed), and these systematic patterns of perception affect people's consequent actions in seeking help from dormant contacts. Compared to people holding a fixed theory, people holding a growth theory are less likely to seek help

from inactive contacts and more likely to experience discomfort in seeking help from them. The findings from Chapter 4 contribute to an understanding of why merely having advantageous network ties is insufficient to obtain benefits – as the structural perspective generally assumes (Burt, 2005; Cook et al., 1983). Thus, this research contributes to a line of emerging work emphasizing the place of network perception (Brands & Mehra, 2019; Landis et al., 2018) and motivation to act on network opportunities (Anderson, 2008; Landis et al., 2018).

While each of the three chapters provides a separate discussion of theoretical and practical contributions, there are a few overarching implications for future research. One core contribution of the presented work to social network literature is to highlight individual agency. The traditional structural view suggests network structure dominates individual motivation (Granovetter, 2005) and opportunity and motivation are the same (Burt, 1992). Results from my thesis, however, show that brokers who occupy a similar network position – a gap between disconnected people – engage in different types of brokerage behavior (Chapter 2). Regardless of the ample potential and existing opportunities, emotions and beliefs prevent people from effectively utilizing network opportunities (Chapters 3 and 4), and these differences in motivation lead to different consequences.

These results suggest more studies are needed to understand how individual agency interacts with the social networks that people are embedded in. For example, (1) Who are motivated to occupy certain types of network positions? (2) When and what types of ties are formed, maintained, or decayed? (3) What are the consequences for individuals and network structures? Researchers have begun to explore these questions with longitudinal studies (e.g., Tröster, Parker, van Knippenberg, & Sahlmüller, 2019).

Future research could continue to explore these questions by conducting research on individual psychology and network change.

It will be valuable to also examine the performance consequences of the interplay between individual agency and network positions. The current thesis examines meaningful outcomes such as brokers' burnout (Chapter 2), new tie formation (Chapter 3), and seeking help from inactive contacts (Chapter 4). These are important precedents of organizational performance. What is needed in future work is how current findings can be more directly translated into explaining organizational performance variance. For example, (1) Are depleted brokers less likely to detect novel ideas that are presented to them? (2) Do the psychological costs of brokerage help explain the wide performance variance among brokers (Burt et al., 2013)? (3) Does seeking help from dormant contacts enhance employee creativity? In addition, future research could continue to explore the types of individual characteristics and network opportunities that can together provide better organizational performance outcomes (Carnabuci & Dioszegi, 2015; Soda, Tortoriello, & Iorio, 2018; Tasselli & Kilduff, 2018).

Conclusion

Individual psychology and social networks are interdependent (Tasselli et al., 2015). Network structures that can provide tangible benefits may be psychologically taxing and lead to detrimental behavioral consequences. Regardless of the potential or existing network opportunities, rejection anxiety and lay beliefs can hinder or facilitate people from forming advantageous network ties and mobilizing opportunities from the ties. In summary, this thesis represents an endeavor to better understand how people experience, form, perceive, and mobilize social networks.

Individuals' psychology and behaviors cannot be fully understood without taking into account the social structures they are embedded in, and networks cannot be fully

understood without taking into account the psychology of individuals (Tasselli et al., 2015). In this sense, future network research will benefit from further exploring this interplay between people and social networks.

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Appendices

Appendix 3. 1 Manipulation (Study 2)

High [Low] Power condition:

Please imagine that you've just joined a new company. You work in a large office building. After settling into this job for a few months, you have formed new routines. At lunch time, you often go to the company gym for about an hour. One of the regular attendees in the gym is the VP of a different department in your company. She is recognized as one of the *most powerful [least powerful]* division VPs within the company, and her division is widely recognized as one of the *most [least*] important divisions companywide. As a result, her division is allocated one of the *largest [smallest]* budgets in the firm, and she has control over an *unusually large [relatively meager]* amount of resources, compared with her colleagues in other divisions.

High [Low] Status condition:

Please imagine that you've just joined a new company. You work in a large office building. After settling into this job for a few months, you have formed new routines. At lunch time, you often go to the company gym for about an hour. One of the regular attendees in the gym is the VP of a different department in your company. She has a *very positive [somewhat negative]* reputation, and she commands *a great deal of [little]* status in the firm. She *has [does not have]* have the sense that her peers and her subordinates *really [particularly]* like and respect her, and she also feels *very well-accepted on [somewhat excluded from]* the top management team. Indeed, she possesses *a great deal of* [*little*] esteem within the firm.

Note: Gender in the scenario was matched to the gender of participants (e.g., female participants were given a scenario describing a female VP and male participants were given a scenario describing a male VP).

Appendix 3. 2 Manipulation (Study 3)

High Power, Cold condition:

Please imagine that you've just joined a new company. You work in a large office building. After settling into this job for a few months, you have formed new routines. At lunch time, you often go to the company gym for about an hour. One of the regular attendees at the gym is Pat, the VP of a different department in your company. Although you have never interacted with her directly, she seems to be quite a *cold* person. She is recognized as one of the *most powerful* division VPs within the company, and her division is widely recognized as one of the *most* important divisions companywide. As a result, her division is allocated one of the *largest* budgets in the firm, and she has control over an *unusually large* amount of resources, compared with her colleagues in other divisions.

High Power, Warm condition:

Please imagine that you've just joined a new company. You work in a large office building. After settling into this job for a few months, you have formed new routines. At lunch time, you often go to the company gym for about an hour. One of the regular attendees at the gym is Pat, the VP of a different department in your company. Although you have never interacted with her directly, she seems to be quite a *warm* person. She is recognized as one of the *most powerful* division VPs within the company, and her division is widely recognized as one of the *most* important divisions companywide. As a result, her division is allocated one of the *largest* budgets in the firm, and she has control over an *unusually large* amount of resources, compared with her colleagues in other divisions.

Control, Cold condition:

Please imagine that you've just joined a new company. You work in a large office building. After settling into this job for a few months, you have formed new routines. At lunch time, you often go to the company gym for about an hour. One of the regular attendees at the gym is Pat, the VP of a different department in your company. Although you have never interacted with her directly, she seems to be quite a *cold* person. She has a somewhat very positive reputation. She has the sense that her peers and her subordinates really like and respect her, and she also feels somewhat like a well-accepted part of the top management team. Indeed, she possesses a great deal of esteem within the firm.

Control, Warm condition:

Please imagine that you've just joined a new company. You work in a large office building. After settling into this job for a few months, you have formed new routines. At lunch time, you often go to the company gym for about an hour. One of the regular attendees at the gym is Pat, the VP of a different department in your company. Although you have never interacted with her directly, she seems to be quite a *warm* person. She has a somewhat very positive reputation. She has the sense that her peers and her subordinates really like and respect her, and she also feels somewhat like a well-accepted part of the top management team. Indeed, she possesses a great deal of esteem within the firm.