

A Cognitive Compass for a Social World: The Effects of Lay Theories on
Networking Engagement

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Submitted in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy
under the Executive Committee
of the Graduate School of Arts and Sciences

COLUMBIA UNIVERSITY

2015

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ABSTRACT

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Conventional wisdom and a wealth of research suggest that effective networks are an important key to career success. Yet, why do so many people struggle to build and maintain professional relationships? In this dissertation I argue that, rather than not knowing how to network, most people feel conflicted about the idea of networking.

The present research applies a motivational framework to networking. Building on the idea of lay theories in motivational psychology, this dissertation investigates how lay theories of social intelligence influence networking engagement. Hereby, I distinguish between fixed (social intelligence is inborn and static) and growth (social intelligence can be nurtured and developed) theories of social intelligence and develop a new Lay Theories of Social Intelligence (LaySI) scale.

Results show that LaySI is a distinct construct and predicts engagement in networking above and beyond the effects of personality traits. Using multiple methodologies, including experiments and field studies, this dissertation shows that people holding fixed theories not only feel less engaged, but also are less likely to create new relationships and seek fewer opportunities to network. Tracing the mechanism for reduced engagement, this dissertation identifies two mediators by which fixed theories inhibit networking engagement: people's attitudes toward

networking as immoral and futile endeavor. Important for professionals, the present research shows that lay theories can be updated by providing new information to promote networking engagement, even among seasoned executives. By examining what people actually believe or feel about professional networking, the present research contributes to a more complete understanding of the motivational psychology of networking. Similarly, this dissertation enriches and extends traditional networks literature by demonstrating how cognitive antecedents influence the formation of relationships.

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ACKNOWLEDGEMENTS

Science, as is commonly said, stands on the shoulder of giants and this dissertation is no exception. In the following I want to thank those giants who have accompanied me during my graduate career at Columbia University and have provided me with the firm and fruitful ground on which I could develop and nurture my ideas. Their invaluable guidance, tireless assistance, and collegial support have made this research possible.

First, I would like to thank Sheena Iyengar who saw my potential and accepted me as her student. Throughout our collaboration, Sheena instilled in me the spirit of academic entrepreneurship, passion to think big, and vigor to pursue impactful work. Her generous support and mentorship consistently calibrated my academic compass and helped me to accomplish my goals.

“Nullius in verba” – Ko Kuwabara taught me to conduct research according to this principle. As his disciple I learned the uncanny precision necessary for scientific work. Ko persistently challenged my ideas and implanted in me a healthy skepticism to continuously question the status quo.

Throughout my academic career Xi Zou has been my pole star. A graduate of the same program, thanks to Xi, I realized that conventional boundaries of the field only exist to be traversed and the most interesting questions lie right at the intersection of different paradigms. Keen to explore these boundaries, I am grateful to Damon Phillips and Dan Wang for their unremitting patience and guidance to climb the ridges separating sociology and psychology. Without your brilliance and expertise, I would not have been able to walk this tightrope. Thanks is also due to Elke Weber, who, like a true guardian, always looked out for me from the distance.

During my time at Columbia I met a brigade of extraordinary colleagues. Philipp Brandt was the perfect accomplice and confidante to brave this voyage through uncharted waters. Amongst Ivana Katic, Andy Yap, and my cohort members Elizabeth Wiley, Mitali Banerjee, Liu Zhi, and Charlene Chen we bounced all those crazy ideas and figured out means to test them. When sequestered in the libraries, my sister Wiebke and my friends, in particular, Leonid Koller, Marc Rexroth, Jeffrey Lagomarsino, and Sebastian Kranz reminded me of the opportunities beyond Columbia, pointing to new mountains to climb.

Knowing about the unconditional support of one's parents makes it much easier to reach for the stars. Gerlinde and Roland, without your trust in my abilities and full support of my path, none of this would have been even remotely possible. I love you for giving me the freedom to roam this wonderful globe far from home and explore all the paths less travelled.

Hermann Hesse once wrote, "Der Weltgeist will nicht fesseln uns und engen, Er will uns Stuf' um Stufe heben, weiten". Ning, for you I embarked on this journey and, together, we will continue to navigate the many crossroads ahead.

INTRODUCTION

“Who you know” matters in decisive ways across a variety of business domains. Yet, for many people, professional networking is both a fact of life and a bane of their existence. On the one hand, building, managing, and leveraging relationships is a core competency for any professional, whether working for a large multinational or self-employed (Adler & Kwon, 2002). On the other hand, research has only recently begun to recognize how ambivalent, uneasy, or even conflicted many people actually feel about the idea of networking. For some, the idea of building instrumental ties to get ahead feels morally questionable or even “dirty” (Casciaro, Gino, & Kouchaki, 2014; Molinsky, 2007; Wanberg, Kanfer, & Banas, 2000). Others dismiss networking as onerous chore, futile activity, or emotionally challenging (Bensaou, Galunic, & Jonczyk-Sédès, 2013). It is perhaps no exaggeration that few other words in business conjure images of sleaze and desperation as vividly as the word “networking.”

This dissertation raises the critical question why so many people feel ambivalent or conflicted about networking while others manage to resolve such feelings and investigates in what ways negative feelings about networking impact how well or how much people engage in networking. To address these questions I apply a motivational framework to networking and trace people’s engagement in networking to their implicit beliefs, or lay theories, about their ability to network.

Based on Carol Dweck’s (1996, 2007; Dweck, Chiu, & Hong, 1995a, 1995b) influential work on motivational psychology, lay theories refer to naive beliefs about the “nature vs. nurture” of various human attributes. Such fixed vs. growth theories have direct consequences for motivation and performance across a variety of domains. Of practical significance, lay

theories can be changed or induced quite readily, suggesting avenues for intervention (Dweck, 2007).

In this dissertation I extend the motivational framework of lay theories to social intelligence in networking, or ability to get along with people, manage social interactions, and navigate social relations. Chapter 1 presents a review of the related literature. Chapter 2 focuses on the theory development how lay theories influence networking. I posit that people differ in their lay theories about social intelligence as primarily fixed and innate or learned, and that having fixed theories of social intelligence inhibits networking engagement. To test this argument, in Chapter 3, I first develop a Lay Theory of Social Intelligence scale (LaySI) and demonstrate that people's beliefs about social intelligence predict their engagement in networking above and beyond other measures of individual differences. In Chapter 4 I show that contrary to personality traits, lay theories of social intelligence can be manipulated, with consequences for people's engagement in networking. Chapter 5 tests the efficacy of my experimental intervention in a real-life setting, job search events at which professionals actively look for new career opportunities. Having explored the effects of lay theories during networking events, Chapter 6 addresses whether LaySI affects people's likelihood to seek opportunities to network. This chapter also investigates potential interaction effects with personality traits and individuals' networking ability. Chapter 7 examines people's behavioral tendency at a real-life event in more detail and assess whether engagement is primarily directed at creating new relationships or maintaining existing relationships. Finally, in Chapter 8, I summarize the implications of the motivational psychology of networking for theory and practice.

CHAPTER 1

In Search of Social Capital

Across industries, building, maintaining, and leveraging relationships is a core competency for any professional. People with certain types of networks are more likely to find jobs (Granovetter, 1973; Wanberg et al., 2000), have new ideas (Burt, 2004) and get promoted faster (Burt, 1997). They command higher salaries (Burt, 1992) hold power and influence (Brass, 1992; Ibarra, 1993), more readily access strategic information and task advice (Podolny & Baron, 1997), have more positive reputations (Krackhardt & Kilduff, 1999), receive more positive evaluations (Shipilov, Labianca, Kalnysh, & Kalnysh, 2014) and feel more satisfied with their career (Wolff & Moser, 2009). Yet, who builds such effective networks remains an elusive question in networks research.

Previous research has approached this question with different underlying assumptions. While network scholars start their inquiry from the perspective of the overall network, scholars of organizational behavior have focused on individuals' predisposition as their starting point. Network scholars assume that actors – in response to the opportunities offered within the network – rearrange their professional relationships to maximize the utility of the occupied position. By comparison, psychological explanations assume actors' dispositions to influence behavior and perception. In the following I review these different streams of literature and summarize their key insights for the networking literature.

Rational Choice Models

A dominant view of networking is structuralism that focuses on relational structures of opportunities and resources in particular situations (Burt, 1992; Granovetter, 1973; Ibarra, 1993;

Kilduff, Crossland, Tsai, & Krackhardt, 2008), including many rational choice models of networking (Nebus, 2006). Many studies investigate opportunities for individuals to maximize utility through networking for various outcomes, whether they pursue knowledge (Hansen & Haas, 2001), gain trust (Tsai & Ghoshal, 1998), gain higher compensation (Belliveau, O'Reilly, & Wade, 1996), improve performance (Cross & Cummings, 2004), or increase productivity (Reagans & Zuckerman, 2008). Yet, while individuals in these studies pursue external opportunities under specific circumstances, this line of research remains tacit about the motivation to engage with others or equates motivation with opportunity. As a result, motivation is largely assumed away as rational pursuit of external opportunities and networking is no longer problematic (Burt, 2012). The idea of failing to network simply does not exist, because, networking or not, everyone is utility maximizing.

Network Positions

A common approach to identify who has effective networks is to correlate networks with psychological predispositions, such as personality traits. These studies often hold similar assumptions about an actor's rational decision-making process, but argue that structure as well as an individual's disposition determine which position an actor occupies (Kilduff, Tsai, & Hanke, 2006). Of the many potentially relevant dispositions research on self-monitoring has repeatedly been shown to affect an actor's centrality in professional networks (Mehra, Kilduff, & Brass, 2001) and the likelihood to occupy brokerage positions (Sasovova, Mehra, Borgatti, & Schippers, 2010). These patterns have been found in different cultural contexts lending further support to the effect of self-monitoring on social structure (Oh & Kilduff, 2008). While prominent in this stream of research, self-monitoring is not the only personality construct of

interest. Other research has identified the personality of network entrepreneurs, i.e. individuals who are predisposed to seek opportunities, to be associated with occupying structural holes (Burt, Jannotta, & Mahoney, 1998). Similarly, status has also been found to affect the network structure of actors with high status individuals being more likely to span boundaries than low status individuals (Carroll & Teo, 1996). More removed from the traditional view of networks as “pipes” (cf. Podolny, 2001), this line of research finds individual differences associated with strategic network positions; yet, it does not become clear whether some people perceive networks more accurately than others or how people’s network perceptions influence strategic actions. At the same time, this literature cannot reject the plausible alternative that individuals develop certain personality traits or beliefs as a result of occupying a specific network position.

Network Perception

Building on the work on network positions a somewhat related stream of research has examined individual differences in the social cognition of networks, showing that some people are more accurate or effective than others in perceiving, encoding, or recalling who around them is connected to whom with important consequences for strategic action (e.g. Brands & Kilduff, 2013; Kilduff et al., 2008; Krackhardt & Kilduff, 1999). For example, self-monitors are more accurate in perceiving status hierarchies in a network (Flynn, Reagans, Amanatullah, & Ames, 2006), while people with high need for closure tend to overestimate the degree of connections among people of the same race (Flynn, Reagans, & Guillory, 2010). Casciaro and colleagues (Casciaro, 1998; Casciaro, Carley, & Krackhardt, 1999) find positive associations between extraversion and the perceptual accuracy of social networks. More recently, Smith, Menon, and Thompson (2012) invoked the idea of cognitive network activation to suggest that people are not

only inaccurate but also incomplete in their recall of networks; only a particular subset of one's entire network is brought to conscious attention at any given time, depending on one's psychological state. Finally, a similar line of work has shown that people typically use simplifying beliefs about what networks should look like (e.g. transitive and linearly hierarchical) to make sense of the relations around them (De Soto, 1960; Kilduff et al., 2008). However, people differ in the extent to which they actually rely on such heuristics (Janicik & Larrick, 2005). Taken together, research on cognitive networks adds an important element of subjectivity to structural determinism. At the same time, however, the focus of analysis for all the above remains primarily on structure rather than process, i.e. networks rather than networking. The motivation to network – or lack thereof – is largely sidelined or reduced to the implicit assumption that seeing networks accurately is sufficient for people to act on local opportunities.

Personality

Locating agency at the individual level, scholars of organizational behavior investigate the effects of personality traits on networking behaviors. In this vein, studies on the Big Five personality types have shown, that extraverts and people high on openness are more likely to build and maintain contacts inside and outside their organization, while agreeable people are more likely to use contacts for advice (Wolff & Kim, 2012). Extraverts are also more likely to build larger and more expansive networks (Kalish & Robins, 2006; Shipilov et al., 2014), engage in a wider variety of networking behaviors (Forret & Dougherty, 2001), engage in more informal networking activities (Shipilov et al., 2014), and connect people around them (Totterdell, Holman, & Hukin, 2008), while neuroticism predicts fewer advice and friendship ties (Klein,

Lim, Saltz, & Mayer, 2004). Still, it is not uncommon to find an extravert with large circles of social friends who despises professional networking or a well-connected introvert (Cain, 2012). As professional networking is different from other forms of social interaction (Casciaro et al., 2014), relying on individuals' predispositions alone may not fully capture the nuances of this particular domain. Without dismissing the importance of personality, I argue that understanding domain-specific beliefs helps to provide a more detailed understanding of what motivates or *demotivates* people to engage in networking.

Networking Scales

Further extending research on the effects of psychological predispositions on networking scholars have also studied networking by developing new scales that vary in length and focus. For instance, existing scales focus on individuals' overall networking ability (Ferris et al., 2005) or specific activities and behaviors networkers engage in (Forret & Dougherty, 2001). Other constructs measure the level of comfort people feel when networking (Wanberg et al., 2000) and individuals' likelihood to connect with others (Totterdell et al., 2008). Finally, some scales assess a networker's focus, i.e. whether to engage in networking with members of the same organizations or to create external contacts outside the organization (Michael & Yukl, 1993). Scales have also been developed for networking-related concepts in other cultures, such as a person's *guanxi* orientation measuring individuals' desire to establish harmonious relationships with professional contacts (Su, Sirgy, & Littlefield, 2003). Often used as predictors for professional outcomes, these developments highlight the need to better understand professional networking and actors' engagement in networking, yet leave no barrier to developing new scales

for specific effects (Burt, 2012; Burt et al., 1998). Instead, they leave ample room for questions regarding meaningful antecedents of networking engagement.

Conceptualizing Instrumental Networking

Following current literature, I define networking as repeated or patterned behaviors intended to purposively and proactively build, manage, or leverage relationships (Bensaou et al., 2013; Forret & Dougherty, 2001; Whiting & de Janasz, 2004; Wolff & Moser, 2009). This definition is grounded in the concept of agency that has long framed our understanding of the role of individual psychology in networks (Ahuja, Soda, & Zaheer, 2012; Burt, 2012; Emirbayer & Goodwin, 1994; Giddens, 1984; Kilduff & Brass, 2010; Sewell Jr, 1992). Emirbayer and Mische's (1998) influential essay characterizes agency as purposive, iterative, and deliberate action. The purposive dimension of agency describes a future-orientation toward certain goals or needs driven by the will, rationality, and projective imagination of individuals to shape their own paths. The iterative dimension describes the repeating nature of social practice, grounded in the "selective reactivation of past patterns of thought and actions" (Emirbayer & Mische, 1998: p.971) through learned habits, internalized norms, or external constraints. Finally, the deliberate dimension traces agency to the evaluative nature of reflexive judgment in response to the practical, moral, or normative demands and contingencies of the present.

My definition of networking captures these three core aspects of human agency. First, the focus on purposive or instrumental networking in this definition precludes involuntary interactions or spontaneous encounters that occur without premeditation, often initiated by others. By the same token, this definition precludes assigned interactions under organizational constraints, such as appointments to project teams, client accounts, or a particular floor.

Although this definition does not preclude purposive networking for personal or social reasons, I focus on networking as active pursuit toward professional goals or in business contexts.

Second, the iterative aspect of networking distinguishes networking from a mere aggregation of rational, purposive action. Engaging in something like networking repeatedly, regularly, or habitually is not simply a matter of repeatedly making identical choices, like taking the same route to work every day, but also recognizing the importance of cumulative efforts and acknowledging the nuances in each interaction. Frequent iteration enables individuals to selectively draw from past patterns and experiences to incorporate in their routine and apply to new situations.

Finally, the idea that networking is deliberate means it is neither forced nor automatic, but consciously deliberated and volitional. In contrast to the mechanistic if-then nature of rational action, networking proactively means deciding what is effective, feasible, and appropriate. Individuals are capable to gauge different scenarios case by case and decide on the suitable path of action based on the demands and peculiarities of each individual interaction or situation.

Networking as Agency

A particularly insightful analogy for networking as purposive iterative, and deliberate action is the idea of exercising: most people desire to be fit, know how to exercise in one form or another, and understand the general benefits of fitness. Yet many people still struggle to exercise regularly and get fit, often in ways that cannot be explained by rationality, personality, or limited access to opportunities and resources alone (DellaVigna & Malmendier, 2006; Gollwitzer, 1999; Oettingen, Pak, & Schnetter, 2001). Despite the fact that becoming fit may be one of the most

commonly held goals, many people fail to get in shape because of particular beliefs or attitudes they hold about what is physically feasible, effective, or appropriate (McFerran & Mukhopadhyay, 2013). For them, exercising is not simply a matter of rational pursuit of goals and opportunities; what equally matters are their beliefs about whether or not they are capable of achieving these goals and their attitudes toward the consequences of their efforts (Crum & Langer, 2007). It is therefore critical to examine how people come to think or feel about a given domain apart from their general rationality or personality.

To derive social capital from relationships, networking, like exercising, requires opportunities (to meet people), ability (to network), and motivation (to engage in networking). Creating or maintaining relationships for the sake of developing social capital is unlikely to occur without meeting all of these conditions (Adler & Kwon, 2002). Simply understanding the importance of networking or knowing how and where to network may not be enough for people to actually network, even when there are ample opportunities around them for a number of motivational reasons (Ingram & Morris, 2007; Obukhova & Lan, 2013; Srivastava & Banaji, 2011; Wanberg et al., 2000). First, networking presents various search costs: researching people, approaching strangers, and bracing oneself for occasional rejections requires significant investment in time, money, and psychic energy. Second, networking also entails maintenance costs under the guise of afternoon coffee, weekend golf, or birthday cards. Such efforts may test one's patience and commitment, because the nature of many relationships is to develop slowly, but die quickly (Burt, 2000). Finally, these costs notwithstanding, networking may not pay off after all. Even if it did, network effects are often difficult to observe or quantify, which means it is often not clear how much of one's eventual success or performance can be attributed to social capital versus human capital or other factors. The result is that, given the natural human tendency

to make self-serving attributions to oneself, networking may not receive proper credit in many people's eyes (e.g. Sedikides, Campbell, Reeder, & Elliot, 1998). Furthermore, any possibility that networking might actually pay off may be overshadowed by the idea that networking still feels unfair or insincere, getting ahead by using people, not through one's own merit and self-sufficiency.

These costs are both real and subjective, grounded in the reality of networking as well as people's beliefs and attitudes about networking as motivational problem – i.e. an activity that is potentially futile, cumbersome, awkward, or dirty. My goal is to understand who is prone to these views and their motivational consequences for networking. That is, my interest is not in who happens to be “relationally” fit, how fit they are, or exactly what they do to get fit, but how these views undermine the motivation to get fit through purposive, iterative, and deliberate engagement in networking.

My focus on lay theories highlights an important element of agency that has been largely overlooked in prior research on networks. While extant approaches to agency have contributed greatly to our understanding of various psychological factors that predict or promote networking, including rational pursuit of external opportunities (Nebus, 2006), social skills (Fang, Chi, Chen, & Baron, 2014), personality traits (Wolff & Kim, 2012), and network perception (Krackhardt & Kilduff, 1999), they have by and large treated lay beliefs, attitudes, and motivation toward networking as implicit, epiphenomenal, or unproblematic. Yet, the motivational problem of networking cannot be attributed to rational choice, wrong personality types, misperception of ties, or lack of skills and knowledge alone, for to do so dismisses a crucial point, as recent studies suggest (Bensaou et al., 2013; Casciaro et al., 1999; Molinsky, 2007). Many people struggle first and foremost with the idea – rather than the mechanics – of networking as

something futile, threatening, or morally questionable. My focus on lay theories addresses this point by examining how laypeople actually think about networking.

Instead of imposing a strict operational definition of networking, my approach is to understand lay perspectives by recognizing that exactly what constitutes networking depends from person to person on what is personally feasible, relationally meaningful, and culturally appropriate. I am thus agnostic about exactly what networking entails and how networking should be operationally defined. Some people consider browsing LinkedIn an essential part of networking while others dismiss it as waste of time. Rather than debating what constitutes networking, my perspective is to recognize the very fact that laypeople differ in how they each view and approach networking in their own terms, depending in part on their personal beliefs and attitudes.

CHAPTER 2

A Lay Perspective on Networking: Theoretical Model

In this section I presents the theoretical model (Figure 1) that I will test in the following chapters. My model consists of three major components: networking engagement, lay theories of social intelligence, and attitudes toward networking. The main focus of the model is to explain why some people engage less in networking and to identify meaningful ways to help people engage in networking, whether individuals want to engage more frequently, longer, or feel more comfortable about the idea of networking. While networking is influenced by various factors, such as personality traits, perceptions of opportunities in networks, or occupation of specific positions within networks, I focus on engagement being driven by individuals' lay theories and valence of their attitudes.

Insert Figure 1 about here

The intuition is that many people feel disengaged from networking because of their attitudes toward networking as something devoid of utility or moral legitimacy. One important basis of such attitudes is people's lay theories about social intelligence. I argue that these theories can help individuals to meet their professional goals. While having a professional goal (e.g. finding a new business lead or getting a job) stresses the importance of networking, I posit that it may not be sufficient to motivate individuals to engage in networking. For instance, individuals might actively seek out opportunities to network and attend networking events with a specific goal in mind, but, instead of pursuing their professional goals, spend most of the event catching

up with friends (Ingram & Morris, 2007). As such, lay theories may motivate people to overcome their inhibition to network and help to realize professional goals.

Networking Engagement

The outcome variable of my primary interest is engagement, which concerns the extent to which people commit their emotional, mental, or physical resources or energy toward a certain task or goal. Engagement is particularly important when people attempt to create new relationships with a previously unknown person – which constitutes a significant portion of professional networking – due to the unfamiliarity and uncertainty regarding the other person’s preferences, goals, interests, or motives. Drawing on the literature on work engagement (Schaufeli, Salanova, González-Romá, & Bakker, 2002), I view engagement as an expression of one’s motivation in a particular domain. Engagement can vary both objectively and subjectively.

Objective engagement. Objective measures of engagement include frequency (how often), intensity (how much), and duration (how long) of one’s efforts (Wanberg et al., 2000). Research shows that intense networking activity is associated with higher income for employees (Ferris et al., 2008; Wolff & Moser, 2009) and better financial performance for entrepreneurs (Semrau & Sigmund, 2012). In a field study Luthans and colleagues (1988) show that networking is equally beneficial at every career stage. Observing managers’ daily routine over a two week period they find that successful managers spend up to 70% more time on networking and routine communication than their less successful peers. Frequent networking not only affects an employee’s objective outcomes, but also is associated with career satisfaction and perceived success. Langford (2000) shows that frequent networking leads to better relationships and increased social support by colleagues, which in turn increases perceived success. Frequent

networkers are thus able to tap into more social resources, receive more information, as well as career sponsorship (Seibert, Kraimer, & Liden, 2001).

While networking may be beneficial to individuals at any career stage, it can be difficult to stay motivated. Some studies point to a decrease in networking intensity and loss of interest in networking as employees become increasingly embedded in an organization over time (Ng & Feldman, 2010). This decrease may be due to individuals becoming increasingly selective in their networking, weighing the opportunity cost of time and effort to create a new relationship with the potential value of new information (Nebus, 2006). If a potential contact passes such threshold and is judged to be beneficial to one's professional goals, one is more willing to engage with this person (Fitzsimons & Shah, 2008).

One would imagine that most people attend professional networking events with the goal to form new relationships and find new opportunities. However, studies show that even if individuals explicitly state creating new contacts as professional goal before professional networking events, they barely engage with new contacts and instead converse with existing contacts during such events (Ingram & Morris, 2007). Given the opportunity to make new connections and the stated intention to do so, it remains unclear what inhibits people from engaging with new contacts in such situations.

Preliminary evidence points to the powerful influence of cognition on individuals' motivation to engage in networking. For instance, perceptions of other people influence an individual's decision on who to engage with (Ibarra, Kilduff, & Tsai, 2005). Similarly, past experiences affect individuals' decisions to form instrumental ties (Janicik & Larrick, 2005; Kilduff et al., 2006). These studies point to the powerful effects of people's cognition and beliefs on networking.

Subjective engagement. While engagement can be measured in objective terms by gauging observable action (e.g. frequency, duration, or quality of effort), engagement also contains a fundamentally psychological component based on subjective experience (Schaufeli & Bakker, 2004). Borrowing from the literature on work engagement as a component of employee motivation (Schaufeli & Bakker, 2004), I examine motivation to network in terms of subjective engagement. Engagement refers to the level of psychological commitment to, identification with, or presence in one's role or task. Previous research on work engagement has identified a three-factor structure of subjective engagement (Schaufeli et al., 2002), which includes enjoyment and energy (vigor), finding meaning in one's efforts (dedication), and feeling engrossed in the task (absorption). Similarly, when individuals feel engaged in networking, they may experience mental absorption, enjoyment, and a sense of significance in the activity. These feelings may describe localized and transient experiences in the particular moment of engagement or something more global and enduring over time. Thus, one may feel invigorated by the momentary and visceral experience of an intense conversation or by the idea that one is committed to the idea of networking every week.

My interest in subjective engagement stems from research suggesting positive effects of feeling engaged on persistence and performance in tasks that are otherwise stressful or seemingly mundane (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). In the absence of quantifiable and objective feedback on performance to guide action, feelings of engagement play a particularly important role in sustaining initiative, effort, and satisfaction (Kahn, 1990). In networking, it is often unclear whether one's efforts will ever pay off or how much of a person's eventual success or performance can be attributed to social capital rather than human capital or other factors, because it is generally difficult to measure the actual returns on investment: what is

the value of each relationship or interaction? In such situations of uncertainty that create clear short-term costs against ambiguous long-term gains, whether one feels engaged is an important basis of sustained motivation (Wanberg, Kanfer, & Rotundo, 1999).

Subjective and objective engagement should be positively correlated with each other. People who experience networking as positive most likely also spend more time and effort to build new relationships or cultivate existing ones. While subjective and objective engagement may be correlated with each other, I argue that they are complementary. Subjective engagement captures people's experience of networking and focuses on the qualitative aspects of networking. By comparison, objective engagement captures people's behavior and is quantifiable. The former dimension thus describes how individuals come to feel about networking; the latter dimension informs us how much time and effort individuals invest in networking.

I view engagement as a continuum, from low or partial engagement to high engagement. It is possible to be engaged subjectively but not objectively, or vice versa. For instance, some people network constantly without necessarily appreciating the experience while others network sparingly but enjoy every occasion. I assume that the returns to engagement are incremental and proportional; greater engagement results in greater outcomes, but it is not necessary to be fully engaged, both objectively and subjectively, to reap benefits from networking.

Attitudes toward Networking

Although I view networking as generally goal-directed, having a goal does not necessarily lead to actual engagement in networking, because of one's attitudes toward networking. Attitudes are judgmental or evaluative views that elicit consistently favorable or unfavorable reactions toward a particular domain of engagement (Fishbein & Ajzen, 1975).

Building on a growing body of empirical work on the tension people feel toward networking (Bensaou et al., 2013; Casciaro et al., 2014; Molinsky, 2007; Wanberg et al., 2000), I specify two distinct attitudes: the utility and the morality of networking.

While people may hold other attitudes about networking, I posit that instrumental and moral aspects of networking capture two fundamental reasons why so many people refrain from networking. Attitudes regarding the instrumentality and valence (or in the case of networking: morality) are core components of expectancy theory (Vroom, 1964). A general theory of motivation in the field of organizational behavior, expectancy theory posits that individuals' motivation to act in certain ways stems from their expectations that their efforts lead to desired performance (expectancy), the reward or outcome they expect from their performance (instrumentality), and to what extent they value or devalue the outcome based on their goals (valence). In this framework, attitudes toward the utility of networking correspond to a person's instrumentality, while attitudes toward the morality of networking correspond to the valence of the outcome.

A critical implication of expectancy theory is that motivation derives from the interaction of expectancy, instrumentality, and valence, such that reducing any one factor will reduce the overall motivation. This suggests that people can feel disengaged from networking, because networking feels either ineffectual, morally questionable, or both, creating a pernicious double bind that requires rethinking one's idea of what it means to network.

The utility of networking concerns its marginal cost-benefit, i.e. whether or not networking is useful or effective given one's input and ranges from positive to negative based on one's actual or subjective performance. On the positive side, networking feels manageable, effectual, and rewarding, perhaps paying off from time to time in concrete ways that reinforces

one's sense of self-efficacy and engagement (Kalish & Robins, 2006). In many situations, however, people become disengaged as the utility of networking diminishes to zero (futility). At best, approaching strangers with scripted questions, engaging colleagues in endless small talk, or sending birthday cards to former clients may seem futile, hardly worth one's time and efforts. At worst, networking feels awkward, humiliating, or even threatening to a person's sense of efficacy, competence, or self-reliance (Molinsky, 2012). Thus, for one reason or another, these people come to dismiss or resent the idea of networking even while acknowledging the importance of having a rich network, just as many people acknowledge the positive effects of being fit, but find the idea of exercising pointless or too onerous.

Compounding this problem is the possibility that, even if people believe that networking will somehow pay off, they may still question its moral legitimacy or propriety. The morality of networking concerns whether people consider networking a fair, sincere, or appropriate activity. To many people, networking is an unfair way to get ahead by using relationships to bypass meritocracy and short-track one's career. To others, the idea of using instrumental ties is fake and presumptuous, too uncomfortable in its own right (Wanberg et al., 2000). Pragmatists may accept that networking is just part of any business, neither fair nor unfair, yet still squirm at the idea of promoting oneself in front of clients, approaching strangers, or deciding whom to befriend, not for loneliness or true friendship, but for ulterior reasons. For example, in a qualitative study of 50 foreign students in an American business school, Molinsky (2007, 2012) identified two distinct sources of internal conflict in their struggle to adjust to a new professional culture, one with a strong emphasis on professional networking: awkwardness resulting from trying to learn new behavioral skills or repertoire, such as self-promotion, and illegitimacy resulting from engaging in behaviors that are inconsistent with one's native cultural values.

Attitudes about the utility and morality of networking can be regarded as closely parallel constructs in the context of networking.

For Molinsky's students, however, the basis of these social challenges was incongruities between cultures. In contrast, this dissertation applies to both inter- and intra-cultural experiences by locating the roots of people's attitudes toward networking in each person's own lay theories about social intelligence. Wanberg and colleagues (2000) examined the role of attitudes toward networking in the domain of job hunting. They found that people's attitudes toward networking comfort – feeling comfortable approaching people and asking for favors – predict the intensity of job search through networking. The conception of attitudes toward the utility and morality of networking is similar but broader in scope than the idea of networking comfort. Furthermore, by tracing attitudes about networking to lay theories of social intelligence, I go beyond the descriptive patterns in prior studies to explain why people come to hold different attitudes toward networking.

Lay Theories

Lay theories are naïve assumptions or folk wisdom people use to make sense of their social world and guide their everyday decisions and actions in a given domain (Dweck, 1996; Heider, 1958; Nisbett & Ross, 1980). One fruitful stream of research focuses on the consequences of having lay theories about whether or not an attribute is essentially inborn and fixed or can be developed and grow over time (Burnette, O'Boyle, VanEpps, Pollack, & Finkel, 2013; Dweck, 2007; Elliott & Dweck, 1988). In this vein, lay theories reflect people's beliefs about the “nature vs. nurture” of particular entities or attributes.

The distinction between lay theories and beliefs is subtle and terms are often used interchangeably. Lay theories are momentary activations of belief systems, which affect people's mental representation of the world surrounding them. Similar to a lens or a mental frame, lay theories help individuals to selectively organize and encode information which directs individuals to a specific interpretation of an experience and informs subsequent actions (Dweck, 2008). Distinguishing lay theories from beliefs thus provides an important point of intervention through which individuals can change their behavior and exert agency.

Research across a variety of domains shows that engagement is shaped in profound ways by people's lay theories of various human attributes (Dweck, 1996). For example, in the domain of academic performance, students with fixed theories of intelligence are more likely to feel threatened by tests than students with growth theories of intelligence, because they view test scores as reliable measure of their innate (lack of) intelligence rather than effort (Elliott & Dweck, 1988). Likewise, people with fixed theories about intelligence, fitness, or moral character show lower effort in cognitive tasks (Mueller & Dweck, 1998), reduced motivation to exercise (Kasimatis, Miller, & Marcussen, 1996), and weaker conviction that people can change after moral transgressions (Chiu, Dweck, Tong, & Fu, 1997; Schweitzer, Hershey, & Bradlow, 2006).

Lay theories have been examined in more social domains as well. Beer (2002) shows that people with fixed theories about their shyness are more likely to avoid challenging social interactions, whereas shy people with dynamic theories approach such situations as opportunities to improve their social skills. Shy people appear particularly avoidant of situations in which their behavior is scrutinized by others (Valentiner, Mounts, Durik, & Gier-Lonsway, 2011). In romantic relationships, researchers have found that actors hold different theories about

relationships and distinguish between individuals who believe either in romantic destiny (fixed) or relationship growth (Knee, Patrick, & Lonsbary, 2003). After setbacks destiny believers report feeling more disengaged in the relationship (Knee, 1998) and are less forgiving (Burnette & Franiuk, 2010), whereas growth believers try to engage more through actively coping and positive reinterpretation of events.

For professionals, holding fixed theories reduces engagement in crucial business domains. During negotiations, people with fixed theories about negotiation skills give up more quickly and achieve worse results than people with growth theories (Kray & Haselhuhn, 2007). Entrepreneurs and business-owners with fixed mindsets feel less efficacious and more threatened after experiencing difficulties (Pollack, Burnette, & Hoyt, 2012). Likewise, fixed-minded leaders feel less confident taking decisions, persuading others, and accomplishing tasks. Relative to their growth-minded peers, fixed-minded leaders aspire less to personal role models, which erodes confidence in their abilities (Hoyt, Burnette, & Innella, 2012). These effects are often surprisingly persistent, because people are typically unaware of how lay theories affect their behavior. On the upside, however, the majority of these studies identify interventions to update lay theories and subsequently increase self-efficacy in their role.

The lay theories people hold or adopt have downstream consequences on judgment, evaluation, and behavior. Across domains, research suggests two related reasons why people with fixed theories show reduced engagement (Dweck, 1996; Elliott & Dweck, 1988). First, having fixed theories reduces one's sense of self-efficacy and control because simply trying harder cannot change something that is (assumed to be) essentially innate and fixed. People with fixed theories therefore give up more quickly, concluding that they lack the capability to perform given tasks. Second, fixed theories increase sensitivity to rejection and failure because believing

that something is fixed draws people's focus from cultivation to evaluation to seek quick diagnosis of its "inherent" value rather than its potential for change and growth through attention and care over time, because the best one can do if something cannot change is to decide whether to accept or reject it quickly and reliably. These effects are pervasive. Directed at oneself, reduced self-efficacy and heightened sensitivity to failure means people with fixed theories about their own attributes are more likely to avoid or disengage from situations that challenge or threaten their sense of self-worth and competence. By contrast, people with growth theories are inspired by the possibility of cultivation: if an attribute is malleable, it can be nurtured. This belief promotes resilience and sustains engagement despite occasional hurdles and setbacks.

Understanding how the idea of lay theories might extend beyond individual or dyadic domains to networking is not straightforward, because networks are multilevel, consisting of individuals, dyads, and triads embedded in each other (Monge & Contractor, 2003). Recognizing the multilevel nature of networks this dissertation focuses on lay theories about actors' ability to create ties and shape professional networks. Lay theories about social intelligence, concern lay assumptions about the nature of a person's social skills to get along with others, manage social interactions, and navigate the social world. This construct is conceptually parallel to, but theoretically and empirically distinct from, similar theories in related domains, e.g. intelligence (Mueller & Dweck, 1998) or relationships (Knee et al., 2003). As lay theories are typically domain-specific (Dweck et al., 1995a), having a fixed theory in one domain (e.g. intelligence) does not necessary imply a fixed theory in another distinct domain (e.g. relationships). The next section elaborates how lay theories shape attitudes toward networking.

Consequences of Lay Theories: Hypothesis Development

Table 1 summarizes the basic logic of my hypotheses. Building on the idea that fixed theories reduce engagement by drawing one's focus to evaluation, I argue that having fixed theories about social intelligence induces more negative attitudes toward networking. Negative attitudes toward networking in turn reduce individuals' sense of engagement and inhibit engagement in specific networking behaviors, e.g. building and maintaining relationships.

In articulating my specific hypotheses, I conceptualize fixed and growth theories as the extremes of a continuum and treat growth theories as my baseline. While most people have a mix of fixed and growth theories – intelligence, for instance, is bounded but can also be cultivated to a certain extent – I am interested in the consequences of having stronger fixed theories on engagement. The rationale for this perspective is the assumption from expectancy theory that lay theories create a necessary but insufficient condition for networking (Vroom, 1964); having a fixed theory is enough to demotivate a person, but a growth theory by itself is not enough to motivate networking. In effect, I view lay theories primarily as a source of inertia that reduces engagement (Ahuja et al., 2012).

Insert Table 1 about here

Lay Theories of Social Intelligence

Social intelligence, like cognitive intelligence, can be viewed as fixed or malleable. A person with growth theories views social intelligence as a stock of learned or learnable skills, such as listening skills or delivering effective pitches. In contrast, a person with fixed theories

views social intelligence as a matter of fixed personality traits (e.g. charm, attractiveness, or charisma) that are largely innate. Although social intelligence concerns general competence for managing different types of social interactions or situations, it is particularly pertinent when dealing with strangers, that is, in search efforts to build new relationships.

Hypothesis 1a: Holding a fixed theory of social intelligence reduces sense of engagement in networking.

Hypothesis 1b: People holding a fixed theory of social intelligence create fewer relationships.

Lay theories can have wider consequences for networking as well. By reducing engagement toward creating new ties, having fixed theories about social intelligence should not only reduce engagement during networking events, but also the motivation to attend social events with a special emphasis on networking. Individuals who hold fixed theories of social intelligence may want to avoid such evaluative situations altogether and thus may refrain from participating in networking events.

Hypothesis 2: People with fixed theories about social intelligence seek fewer networking opportunities.

I claim that having fixed theories about social intelligence reduces engagement toward creating new and maintaining existing ties for two reasons. First, people with fixed theories are more likely to feel that their networking efforts will yield limited returns because how well or

poorly they network, in their view, is largely fixed and reflects directly on their sense of competence and self-worth; simply trying harder is unlikely to payoff. In comparison to those with stronger growth theories who embrace the view that building new relations is a matter of effort and commitment that gets easier with practice and experience, people with fixed theories are thus more liable to fear rejection, giving up more quickly in the face of failed efforts or avoiding such situations altogether.

Hypothesis 3a: The effect of holding a fixed theory on engagement is mediated by attitudes toward the utility of networking.

Second, apart from how one feels about the utility of trying to build new relationships, people with fixed theories are also more likely to see networking as morally questionable because attributing social intelligence to fixed traits means some people are perceived as innately better than others at building ties. In this view, people may feel that, even if they possess more than enough charm, charisma, or people skills to “work the room” and cold call prospective clients, they might still find the idea of using their social intelligence to build and leverage instrumental ties unfair, insincere, or “dirty” (Casciaro et al., 2014). For them, using people skills to work their way up the corporate ladder is not unlike beauty that confers unfair advantage to some but not others, an idea that is incompatible with meritocracy and the value of real work and conscientious effort.

Hypothesis 3b: The effect of holding a fixed theory on engagement is mediated by attitudes toward the morality of networking.

Fixed beliefs may matter less for people who (think they) are already highly skilled at networking or are highly extraverted. In these cases fixed theories may in fact reinforce their confidence in their social skills and promote rather than inhibit networking. Research on lay theories shows that fear of rejection and negative evaluations are substantial deterrents for people holding fixed theories to engage in an activity. However, people with high levels of communication skills or extraversion may have generally positive experiences in networking situations. As they may be more outgoing and people-oriented, they may also make more connections, which provides them with positive feedback about their efforts. Thus, networking skills and extraversion may be viewed as moderators that mitigate the negative effect of fixed theories on networking engagement.

Hypothesis 4a: Higher levels of networking skills reduce the negative effect of fixed theories of social intelligence on networking engagement.

Hypothesis 4b: Higher levels of extraversion reduce the negative effect of fixed theories of social intelligence on networking engagement.

Lay theories may present an opportunity to help individuals who feel uncomfortable at networking events or avoid networking altogether. Contrary to personality traits that remain largely stable over time, lay theories can be updated based on new information. Providing new information about networking as a skill (rather than a trait) may increase individuals' sense of engagement during networking events. Similar to enhancing performance in the work place (Hoyt et al., 2012) or encouraging more social orientation (Beer, 2002) through quick and simple

interventions, changing individuals' lay theories may be an effective method to encourage individuals to engage in networking and build new relationships.

Hypothesis 5: Lay theories of social intelligence can be changed based on new information individuals receive.

CHAPTER 3

Scale Construction

To construct a scale with convergent and discriminant validity that captures lay theories of social intelligence in networking I asked participants to answer a battery of scales related to lay theories, personality, and networking.

Participants and Procedure

I invited 100 North Americans on Amazon Mechanical Turk (MTurk) to complete a short survey about professional networking. My sample was gender-balanced (51% women), ranged from 18 to 65 years old ($M=34.86$ years), and mostly Caucasian (79%). The majority of participants had more than 3 years of work experience (88%) and a college or university degree (75%).

Measures

Lay theories of social intelligence. I developed a Lay Theory of Social Intelligence in Networking (LaySI) scale based on the lay theories scales by Dweck (1995a) and Kray and Haselhuhn (2007). The scale contained six questions: “People are either naturally gifted at networking, or they are not, and it’s generally difficult to change that,” “How (well) you network is mostly a matter of personality; you can’t change it very much,” “You can become a good networker just by learning new social skills” (R), “People who are not very good at networking just haven’t practiced enough” (R), “Good networkers are born that way,” and “People are born with a certain amount of social grace, and you can’t really do much to change it.” Each item was

rated on a 6-point scale from 1=strongly disagree to 6=strongly agree, with high scores reflecting more fixed theories of social intelligence.¹

Measures of personality. I also included lay theories of personality (Dweck et al., 1995a), the Big 5 personality traits (Gosling, Rentfrow, & Swann Jr, 2003), and self-monitoring (Lennox & Wolfe, 1984), as well as basic demographic questions. I omitted questions about attitudes and engagement toward networking in order to ensure that the scale is constructed without bias.

Insert Table 2 about here

Results

Table 2 summarizes the descriptive statistics. The Pearson correlations for LaySI are largely as expected, suggesting convergent validity. Specifically, LaySI is positively correlated with lay theories of personality, while it is negatively correlated with the personality dimensions, which past research has shown to predict networking (Forret & Dougherty, 2001; Sasovova et al., 2010). At the same time, correlations with all personality constructs are relatively weak or moderate, all r 's < .32. In factor analysis with Varimax rotation (scree-plot and Kaiser-Guttman cut-off at Eigenvalues > 1 served as decision criteria), LaySI shows a uni-factorial composition, with all six items loading onto a single component (all loadings > .55; α = .86) and distinct from the other seven constructs (see Table 3). Based on these results, I conclude that LaySI has reasonable convergent and discriminant validity.

Insert Table 3 about here

Scale Validation

The purpose of this study is to confirm the convergent and discriminant validity of the LaySI scale, and whether it predicts self-reported engagement toward networking (Hypothesis 1a and 1b).

Participants and Procedure

I recruited 100 participants from the U.S. via MTurk. My sample was roughly gender-balanced (41% women), ranged from 18 to 63 years old ($M=32.71$ years), and mostly Caucasian (70%). The majority of participants had five or more years of work experience (76%) and a college or university degree (71%).

Measures

Lay theories. I used the 6-item scale developed in the previous study.

Networking engagement. To examine the predictive validity of the LaySI scale, I included three items measuring subjective engagement in networking, based on Schaufeli et al.'s (2006) work engagement scale, which measures subjective engagement in work domains on three dimensions: vigor (energy or enjoyment), dedication (a sense of significance or meaning), and absorption (feeling focused or present in the moment-to-moment experiences). Participants were asked: "I enjoy going to networking events, even if I don't know most people," "I get something personally or professionally meaningful out of attending networking events, even if I

don't always meet anyone in particular," and "I value the experience of meeting new people at networking events." These items had high internal reliability, $\alpha=.88$. For objective engagement in networking I asked participants to report the number of hours spent per week "meeting new people" (creating ties) and "staying in touch with existing contacts" (maintaining ties), from 1=less than one hour to 7=more than 10 hours per week.

Control variables. To confirm the convergent and discriminant validity of the LaySI scale, I again measured lay theories of personality, self-monitoring, and the Big 5. I also controlled for age, gender, race, education, and work experience.

Results

Convergent and discriminant validity. As shown in Table 4, I obtained substantively identical results as in the previous study. Again, LaySI is positively correlated with lay theories of personality ($r=.60$) and negatively correlated with the Big 5 and self-monitoring items. Correlations with personality dimensions are generally weak, all r 's $<.21$. In factor analysis, all six LaySI items load onto one distinct factor (all loadings $>.60$). The reliability of the LaySI scale is high, $\alpha=.87$.

Insert Table 4 about here

Predictive validity. To see if LaySI predicts engagement in networking, I conducted OLS regressions. LaySI shows a strong effect on engagement, $b=-.64$, $SE=.16$, $p<.001$, and persists even after controlling for personality traits, lay theories of personality, self-monitoring,

and demographics, $b=-.54$, $SE=.17$, $p=.002$, however, LaySI did not predict hours spent creating ($b=.09$, $SE=.18$, $p=n.s.$) or maintaining ties ($b=.08$, $SE=.23$, $p=n.s.$).

Discussion

This chapter demonstrates the convergent, discriminant, and predictive validity of the LaySI scale. First, lay theories of intelligence are conceptually different from lay theories of personality as well as self-monitoring and the Big 5 personality traits. Second, LaySI is a robust predictor of subjective engagement in networking, supporting Hypothesis 1a.

CHAPTER 4

Manipulating Lay Theories and Mediation

While suggestive, Chapter 3 is correlational, leaving open the issue of causality. It is possible, for example, that people develop less fixed beliefs about social intelligence over time as they accumulate positive networking experiences. This chapter examines the causal argument by testing whether manipulating people's theories of social intelligence leads to more subjective engagement in networking (Hypothesis 5). I also test the mediating effects of people's attitudes toward networking (Hypotheses 3a and 3b).

Participants

I recruited 150 individuals from the U.S. on MTurk. My sample was gender-balanced (54% male) and ranged from 19-69 years old ($M=33.03$). The majority of respondents reported to be Caucasian (73%). Most participants had more than 5 years of work experience (79%) and had previously obtained a college or university degree (77%). Participants were randomly assigned to one of three conditions (growth, fixed, or control).

Manipulation

A notable aspect of lay theories is that they can be manipulated relatively quickly and easily, unlike many stable personality traits, with direct consequences for motivation and behavior. One common paradigm for manipulating lay theories is to provide a fictitious magazine article supporting a fixed or growth theory (Chiu, Hong, & Dweck, 1997). Using this approach, participants in the treatment groups were given one of two versions of a short essay about networking (see Appendix A), ostensibly excerpted from Forbes.com. Participants in the

control condition did not receive any text. In the growth condition, the text, titled “Promises of Learning People Skills,” described networking as a set of learnable skills and presented research findings supporting a growth theory of social intelligence. The text in the fixed condition, “Limits of Learning People Skills,” described networking as a matter of inborn traits that cannot be easily changed. For example, participants in the growth condition read: “Despite the popular belief that networking well is largely a matter of who you are, dictated by your natural personality type or characteristics, a growing body of scientific research suggests that learned social skills play a much greater role over the course of one’s career,” while those in the fixed condition read: “Despite the popular belief that networking well is largely a matter of learning skills, a growing body of scientific research suggests that inborn dispositions and natural personality characteristics play a much larger role in one’s career.”

The fixed-theory version was inspired by Elliott and Dweck’s (1988) seminal work on the unintended consequences of feedback given to students: complimenting students that they “must be smart” (vs. they “must have worked hard”) can undermine their motivation by reinforcing fixed views of intelligence. Based on this idea, the fixed version presented research findings suggesting that to “Be yourself” maybe the best we can do.” Apart from these differences, the essays were identical, and neither version explicitly discredited or devalued the idea of networking.

Measures

After the essay, participants answered the LaySI scale ($\alpha=.93$) and subjective engagement measures ($\alpha=.90$) used in the previous chapter. I again measured age, gender, race, education, and work experience as controls. Finally, I created 4-item composite scales measuring

participants' personal attitudes toward the morality and utility of networking on 7-point scales (1=strongly disagree, 7=strongly agree). For morality, I asked: "Building and using personal connections to get ahead in one's career feels unfair," "It is unfair that so much of business depends on networking," "The idea of networking feels fake and insincere to me," and "The idea of networking feels dirty to me" ($\alpha=.89$). For utility, I asked: "To me, networking is a lot of time and work for little payoff," "I find the idea of networking intimidating and unnatural," "In my opinion, networking is not an effective way to meet new people and build relationships," and "I'm not the kind of person who gets much out of networking" ($\alpha=.85$). All items were reverse-coded. Attitudes toward utility and morality were significantly correlated, $r(150)=.73, p<.001$. However, in a factor analysis with Varimax rotation, morality and utility loaded separately on two factors (Eigenvalues for morality=2.78; utility=2.37; see Table 5), demonstrating that they are distinct constructs.

Insert Table 5 about here

Results

Manipulation check. The text manipulation was successful. The omnibus analysis of variance shows a significant effect of the experimental conditions on LaySI, $F(2,143)=31.26, p<.001, \eta^2=.30$. Compared to participants in the control condition ($M=3.16, SD=1.02$), those in the fixed condition endorsed stronger fixed theories of social intelligence ($M=4.22, SD=.92$), $t(99)=5.50, p<.001, d=1.09$, while those in the growth condition endorsed more growth theories of social intelligence ($M=2.73, SD=.95$), $t(98)=2.14, p=.03, d=-.44$.

Insert Figure 2 about here

Engagement. Table 6 reports the means, standard deviations, and correlations. The manipulation also affected engagement. The omnibus analysis of variance found a marginally significant effect of treatment on engagement, $F(2, 147)=2.44, p=.09, \eta^2=.16$, and participants in the fixed condition ($M=3.71, SD=1.61$) reported lower engagement in networking than those in the growth condition ($M=4.40, SD=1.57$), $t(99)=-2.17, p<.05, d=-.44$ (see Figure 2). Hence, I entered condition as a continuous variable in OLS regression controlling for demographics (Table 7: Model 1), $b=-.38, SE=.16, p=.02$. This effect disappears, however, when I control for attitudes toward utility (Model 2), and morality (Model 3), suggesting possible mediation. I also replicated the findings from the previous chapter showing that LaySI predicts engagement, $b=-.30, SE=.12, p=.01$.

Insert Tables 6 and 7 about here

Mediation. To see if the effect of theories of social intelligence on networking engagement is mediated by attitudes toward the morality and utility of networking (Hypothesis 3a and 3b), I ran structural equation models (Preacher, Rucker, & Hayes, 2007). As noted above, utility and morality load on different factors in factor analysis, but they are highly correlated. To avoid multicollinearity, I ran separate analyses. As shown in Figure 3, I found significant mediation through both attitudes toward utility and morality. A bootstrap analysis with 5000

iterations revealed a significant effect of the indirect path through utility, $b=.20$, bias-corrected 95% confidence interval [.03, .37], and through morality, $b=.13$, bias-corrected 95% confidence interval [.03, .30]. Controlling for work experience, gender, education, and age did not change the results.

Insert Figure 3 about here

Discussion

Chapter 4 provides strong support for my causal argument. First, I identified attitudes toward the morality and utility of networking as key mechanisms mediating the relationship between theories of social intelligence and engagement in networking (Hypothesis 3a and 3b). Second, I showed that lay theories of social intelligence can be manipulated, with measurable consequences for people's subjective engagement in networking (Hypothesis 5).²

CHAPTER 5

Field Experiment

Because my studies have thus far relied on recalled events and experiences, concerns remain about whether my results are biased by selective recall. In addition, there are questions about whether results from MTurk would generalize to other populations. In this chapter, I address these issue by conducting a field experiment at two actual networking events hosted by an elite business school for its executive MBA program. These events present a particularly rigorous test of lay theories, for executive MBAs have years of work experiences, often in top managerial positions that require networking. During their program at the business school, they receive extensive training and support in professional networking through formal curriculum, student organizations, as well as off-campus events. Thus, there are reasons to suspect whether lay theories would matter among such people. Yet, studies have also found that, even among such people, there are surprisingly many who perform rather poorly at basic professional tasks, such as negotiation (Amanatullah, Morris, & Curhan, 2008) or networking (Ingram & Morris, 2007).

Participants and Procedure

I coordinated with the career management and alumni offices at an urban business school in the U.S. to conduct a field experiment at two professional networking events. Both events were conventional events for all intents and purposes, advertised as career-networking events. The first event was held for executive MBAs and alumni, whereas the second event was open to both executive MBAs and full-time MBAs, in addition to roughly 30 panel speakers and representatives from various executive search firms and other industries. One hundred and forty

five registered for the first event and 126 for the second event, although not all attended.

Altogether, 50 attendees agreed to participate in my study by completing pre- and post-event surveys.

Two days prior to each event, the career management office sent an email with final details about the event, along with one of two versions of an article about networking (see Appendix A) to help them “get in the right mindset,” which served as my experimental manipulation. After reading the text, participants completed the LaySI scale from the previous studies as a manipulation check ($\alpha=.76$).

Each evening began in an auditorium on campus at 6pm with an hour-long panel by senior executive recruiters on successful career planning in their respective industries. After the panel, attendees had a two-hour networking reception in an adjacent lounge. In the center of the room was a large table with snacks. A bar was set up in one corner of the lounge.

Representatives from various companies and executive search firms were stationed at several cocktail tables arranged along two sides of the lounge. No seats were available at the event. The events ended at 9pm.

One day after the event, the career management sent an email with a link to the post-event survey; the same email was sent two days later as a reminder. The post-event survey included the 3-items scale from Chapter 3 (reworded for each event) to assess subjective engagement ($\alpha=.88$). In addition, I included one question to measure people’s performance to make promising connections at the event: “Did you meet anyone that you’ll consider contacting for a follow up meeting?” (1=nobody to 7=more than 15 people). Finally, to see if the manipulation affected attendees’ subjective engagement only and not how important they regarded the events, I asked “How important is networking at the event?” (1=not at all important,

7=very important). I assume that event participants primarily interacted with people they had previously not known to gain new insights about career opportunities. At the firm request of the career management office, the surveys were kept at bare minimum, limiting the range of data I could collect. In my analysis, I can control for which event participants attended, gender, race, and matriculation status (MBA, executive MBA, or alumnus), and response speed (how quickly before and after the event they completed the pre- and post-event surveys).

Results

Manipulation check. My manipulation was successful. Those who read the growth version of the text reported stronger growth theories of social intelligence ($M=3.45$, $SD=.59$) than those who read the fixed version ($M=2.97$, $SD=.79$), $t(48)=2.40$, $p=.02$, $d=.68$. The manipulation did not affect how important participants considered networking at the event, however (fixed: $M=5.42$, $SD=1.13$; growth $M=5.65$, $SD=1.06$), $t(47)=.76$, $p=.45$, $d=.21$. Data from the two events were combined, as I found no difference between the events in subjective engagement, $t(49)=.11$, $p=.91$, or the distribution of attendees by gender or race groups (all p 's $>.20$).

Engagement. As predicted and consistent with Hypothesis 5, priming fixed vs. growth theories leads people to engage more. Examining each item separately, those who read the growth version of the text experienced the networking event as more meaningful (fixed: $M=4.29$, $SD=1.55$; growth: $M=5.69$, $SD=1.05$), $t(48)=3.77$, $p=.001$, $d=1.07$, and more enjoyable (fixed: $M=4.38$, $SD=1.76$; growth: $M=5.38$, $SD=1.20$), $t(48)=2.38$, $p=.02$, $d=.67$. They also valued the experience of meeting people more (fixed: $M=4.33$, $SD=1.83$; growth: $M=5.85$, $SD=1.26$), $t(48)=3.43$, $p=.001$, $d=.97$, and actually met more people to follow up with (fixed: $M=1.88$,

$SD=.74$; growth: $M=2.31$, $SD=.62$), $t(48)=2.25$, $p=.03$, $d=.64$. All of these patterns persist in regressions controlling for all available covariates.

Lay theories vs. alternative accounts. My causal argument is that the priming text affected engagement by changing people's lay theories. An alternative explanation is that those who do well connecting with other people during the event may also feel more engaged. Thus, lay theories may not be the primary driver of heightened engagement, but positive feedback about people's performance. Such interaction effect of fixed theories with people met is also consistent with the broader theoretical idea that, across various domains, people with fixed theories are particularly sensitive to objective performance (Dweck, 1996).³ Because of their focus on self-evaluation, their engagement depends directly on how well they actually perform – in this case, the number of people actually met. To test this possibility, I ran a structural equation model evaluating the effects of the priming text on engagement through LaySI with number of people met as moderator.

Structural equation model. Using structural equation modeling, I find support for the role of lay theories. The full structural equation model (Table 8: Model 1) reveals a significant effect of the fixed-theory text on LaySI, $b=.57$, $SE=.20$, $p<.01$, which has a negative effect on engagement, $b=-1.89$, $SE=.52$, $p<.001$ (Model 2)⁴. In addition, I also find a positive interaction effect of LaySI x People Met, $b=.63$, $SE=.20$, $p<.01$. The positive interaction suggests that the more people they met to follow up with, the more they felt engaged, if they have a stronger fixed theory. The combined effect of these patterns is that having a stronger fixed theory has a positive rather than negative effect on engagement if a person met more than 4 people, which is the case for 17% of my sample. For the remaining majority of the attendees, having fixed theories of social intelligence results in lower engagement, as expected.

Insert Table 8 about here

The indirect paths from the text manipulation to engagement through LaySI is significant, $b=-.1.08$, $p=.02$, 95% CI [-2.03, -.14] and the proportion of the total effect mediated is 55%. To estimate the role of LaySI more carefully, I ran bootstrap tests with 5000 iterations. The indirect path through LaySI is marginally significant, $b=-.77$, $p=.06$, bias-corrected 95% CI [-1.60, -.01]. However, the indirect paths through People Met or LaySI x People Met are not.

Discussion

Chapter 5 found support for my argument in a real-life setting. First, my manipulation successfully primed lay theories among experienced professionals, with significant consequences for their engagement in an actual networking event (Hypothesis 5). Second, I found evidence that the negative effect of fixed theories on engagement is partially offset by the number of people one interacts with. Meeting people for future follow-ups can serve as an important proxy for how well one does at such events. As people with fixed theories are more concerned about the evaluation of their performance, this finding raises the important question if lay theories equally affect engagement for all individuals or whether some people disproportionately benefit from adopting growth theories. Some people may interact more with other people at networking events as a result of their dispositions or people skills and as such have, on average, more positive experiences and judgments of their own performance. Chapter 6 investigates these possible interaction effects and how they affect engagement.

CHAPTER 6

Attending Networking Events

Chapter 6 seeks a more comprehensive understanding of networking engagement. Whereas the previous chapters show that people holding fixed theories engage less during a specific networking event, this chapter investigates whether people with fixed theories also seek fewer opportunities to network in general (Hypothesis 2). Chapter 6 also investigates the interaction with other constructs related to networking engagement. From the previous studies it does not become clear whether fixed theories are a particular detriment to engagement for all individuals or whether some predispositions reduce the negative effects of fixed theories on engagement. In particular, I am interested how a person's networking ability and extraversion interact with one's lay theories to engage in networking, as these predispositions are more approach-orienting and stimulate social interaction. High degrees of extraversion or perceived ability may offset the negative effects of fixed theories on networking engagement (Hypotheses 4a and 4b).

Participants and Procedure

I recruited 183 graduate students at a leading business school in the UK. The sample consisted of roughly two-thirds male participants (61% male) and ranged from 20-26 years old ($M=22.57$). The sample was culturally diverse and included respondents from 40 different countries, the biggest groups being from China (16%), India (13%), Germany (9%), France (9%), Italy (5%), and the UK (5%).

I approached participants at the beginning of the semester and assessed their lay theories of social intelligence, perceived networking ability, and personality traits. Three months later, at

the end of the semester, I contacted participants again to find out how many networking events they had participated in throughout the semester. Due to subject attrition and missing responses on subjects' self-evaluation the overall sample for analysis dropped to $n=135$.

Measures

LaySI. I used the same scale as in Chapter 3 to measure LaySI ($\alpha=.66$).

Networking events. The dependent variable, events, is a count measure of the networking events – organized and hosted either by companies or the business school – participants had participated over the course of the semesters. For participants who reported multiple events, but were unspecific about the exact number (e.g. “Consultancies Presentations,” “Several Career-Based Networking Events with companies such as XXX Consulting etc.,” or “Networking events organized by career services”) I added one additional count to the specified events. For example, if a participant reported to have gone to “Bank X event, Bank Y event, Other Company Presentations,” this would constitute an overall count of three. To account for the positive skew of the dependent variable I chose negative binomial regression as method of analysis.

Extraversion and ability. I assessed extraversion using the NEO-PI scale (McCrae, Kurtz, Yamagata, & Terracciano, 2010). This scale taps into 6 sub-components of extraversion: warmth, outgoingness, excitement seeking, positive emotions, assertiveness, and activity. The scale ranged from 0=strongly disagree to 100=strongly agree ($M=54.45$). To assess perceived ability I asked participants to rate their networking abilities in comparison to their classmates, ranging from 0=worst in class to 100=best in class ($M=60.71$). I normalized the coefficients of LaySI, networking ability and extraversion to account for the differences in scales.

Controls. In my analysis, I control for gender, age, and nationality. I include country dummies for each nationality that had at least 5 respondents. Given the high cultural similarities (Hofstede, 1980), I merged East Asian countries that had fewer than 5 respondents with China into one dummy variable. Responses from other countries with less than 5 people (29.5% of the sample) are included in the baseline condition. One way of networking, albeit less effective in broadening the overall network, is through formal organizations focusing on a specific area of interest with regularly occurring events (Shipilov et al., 2014). Thus, I also control for the number of professional clubs offered by the business school, which respondents were members of.

Results

I report means, standard deviations, and correlations in Table 9. My focus of analysis is the number of events participated. Results of the negative binomial regressions, including main and interaction effects of LaySI with networking ability (Model 1) and extraversion (Model 2) are summarized in Table 10.

Similar to the previous studies, Model 1 (Hypotheses 4a) shows a negative main effect for fixed theories ($b=-.60$, $SE=.23$, $p<.01$) and a positive effect for networking ability ($b=.02$, $SE=.01$, $p<.05$) on networking engagement. The interaction is positive indicating that people holding fixed theories who consider themselves good networkers are more likely to attend networking events ($b=.03$, $SE=.01$, $p<.001$). In Model 2 (Hypothesis 4b) I find a negative main effect of people holding fixed theories for networking engagement ($b=-.49$, $SE=.21$, $p<.05$) and a marginally significant main effect for extraversion ($b=-.03$, $SE=.01$, $p=.07$). The interaction

effect is positive ($b=.07$, $SE=.02$, $p<.001$) indicating that people holding fixed theories who are also extraverted attend more events.

Insert Tables 9 and 10 about here

Margin plots reveal that introverted individuals or individuals who consider their networking skills average or below average especially benefit from a growth mindset. For people whose extraversion or networking ability is at least one standard deviation above the average adopting a growth mindset has little to no effect (see Figure 4). In fact, for these people I observe heightened engagement when they hold a fixed mindset. This finding is consistent with my theoretical framework. If a person considers social intelligence to be fixed and has high people skills, this person should regularly judge one's performance at networking events as positive and thus be motivated to frequently engage in networking.

Insert Figure 4 about here

In Table 11 (Model 1-6) I examine which components of extraversion (McCrae et al., 2010) interact with lay theories to predict event attendance. I find that interactions with warmth (Model 1) and outgoingness (Model 2) are significant (warmth: $b=.06$, $SE=.03$, $p<.05$; outgoingness: $b=.05$, $SE=.02$, $p<.05$). By comparison, excitement (Model 3) and positivity (Model 4) have only marginally significant effects (excitement seeking: $b=.04$, $SE=.02$, $p=.10$;

positive emotions: $b=.04$, $SE=.02$, $p=.07$) while assertiveness (Model 5) and activity (Model 6) show no significant interaction (assertiveness: $b=.03$, $SE=.03$, $p=n.s.$; activity: $b=.03$, $SE=.02$, $p=n.s.$). These results indicate that especially other-directed dimensions of extraversion have a significant effect on people's networking engagement.

Insert Table 11 about here

Discussion

In line with Hypothesis 2 Chapter 6 shows that individuals with fixed theories of social intelligence seek fewer opportunities to network. Confirming Hypotheses 4a and 4b, I show that high levels of extraversion and networking ability reduce the effect of fixed theories. Hereby, especially the other-directed dimensions of extraversion, warmth and outgoingness, influence engagement. My results show that holding a fixed mindset is particularly detrimental for people who consider their networking skills below average and for introverts. In contrast, the effects of holding fixed theories of social intelligence are less problematic, and can even be advantageous, for skilled networkers and extraverts. Thus, the newly designed interventions described in Chapters 4 and 5 will most likely achieve the biggest results for unskilled networkers and introverts.

CHAPTER 7

Behavioral Dynamics at a Networking Event

Chapter 7 investigates the effect of lay theories on networking engagement during an actual networking event (Hypothesis 1b). Because my studies have so far relied on self-reported measures of engagement, I cannot exclude the possibility that LaySI is affecting people's networking experiences, but not impacting their actual networking engagement. Therefore, Chapter 7 relies on behavioral measures to operationalize engagement.

To examine actual networking engagement I set up a field study at a professional networking event. Throughout the event I observed participants' interactions and recorded the creation, duration, and dissolution of ties between conversation partners over time. Networking engagement was assessed by measuring the likelihood of an individual to create and maintain ties over the course of the event.

Methodology

Networking event. The primary purpose of the studied networking event was to provide a forum for exchanging new ideas regarding the use of Big Data and how companies can benefit from access to this additional wealth of information. The event was hosted at a corporate headquarter in New York City. The goal of the event organizers was to bring a diverse set of people with diverse perspectives to discuss the use of Big Data. Participants included social scientists, business people, entrepreneurs, and data scientists. The event was advertised online and open to anyone interested in the topic. Participants had to sign up online at least one day prior to the event. Tickets to attend the event were priced \$15. The event lasted three hours and

consisted of a brief panel discussion on the opportunities of Big Data and a networking function before and after the panel.

The networking event began at 7pm with a reception. The hosting company had set up tables with snacks and hors d'oeuvres, as well as an open bar with beer, wine and non-alcoholic beverages in one corner of the room. All arriving participants headed toward this area to refresh themselves and mingle with others. About 40 minutes into the event the organizers directed attendees to another part of the room where sofas and chairs had been set up. A panel of company representatives and academics discussed the importance of Big Data and its implications followed by a Q&A session. The panel and discussion lasted for about one hour. After the panel participants were invited to return to the bar area and continue networking with like-minded people. Apart from a few bar stools, no seats were available during the networking portion of the event. The event ended at 10:30pm.

Prior to the event I set up video cameras in each corner of the room that recorded the interactions throughout the event. Video cameras were installed at a bird's eye angle. The cameras were fixed and recorded at a constant angle without zoom or any movement throughout the duration of the event. Cameras were positioned visibly and were not intrusive to the event or participants. Participants were informed upon arrival that the event would be videotaped. Identifying information was removed and participants' features were pixelated. After the event I transformed the raw video material into a series of network observations.

For my analysis I focus on the 30 minutes prior and after the panel discussion, which represent the busiest networking periods at the event. During this period I record the network constellations in regular intervals. More specifically, I take a "screenshot" of the room in four-minute intervals and record all observed interactions, i.e. who is talking to whom. This provides

me with a sequence of 16 networks that represent all interactions by every actor over the course of one hour.

Interactions constitute two or more people facing and communicating with each other. To establish whether people actually interact I observe their body language, e.g. leaning in, gesticulation, mirroring each other's posture, or attentive listening. Interactions must be clearly bounded from other individuals or groups. In ambiguous cases I returned to the video and watched a short sequence before and after the screenshot to establish whether an interaction took place or individuals just passed by each other. The resulting networks contain longitudinal observations for each actor and capture the network dynamics during the event and individuals' networking engagement over time. Characteristic of networking events, I do not capture one large network component, but instead observe many small groups ranging between two to six actors.

Participants. Overall, 64 people attended the networking event. Each participant represents an actor in the overall network. Every participant arriving at the event was asked to fill out a short questionnaire to assess lay theories of social intelligence and demographic information. Out of the total sample ($N=64$) 37 people were willing to respond to my survey (57.8%). After the event six respondents requested not to be included in the analysis out of privacy concerns. This reduced the sample size for which I have information on LaySI, demographics, and networking engagement to $n=31$ responses (48.4%).

The majority of attendees were Caucasian (78%) and male (62%). All surveyed participants reported to either hold a college or graduate degree and had at least one year of work experience. Roughly half of respondents attended the event alone (59%), while others brought between one to four friends to the event.

Measures

LaySI. Similar to previous studies I used the LaySI scale developed in Chapter 3. The LaySI scale had high internal reliability ($\alpha=.79$).

Social networks. From the recordings of the event I constructed a series of network matrices, which longitudinally capture the network dynamics of the event. Every four minutes I recorded all interactions in the room and observed the network at 16 different time points. I transformed each observed network into a matrix with 64 rows and columns (Krackhardt, 1987; Wasserman, 1994). Next, I collapsed the 16 matrices into four networks matrices to ensure stability for the simulations of my statistical analysis (Matrices 1-4, 5-8, 9-12,13-16). This step resulted in four networks for the final analysis. Each network thus contains every actor's observed relationships over a 12-minute period. I recoded each cell as 1, if actors engaged in a conversation with the same person for one or more of these four periods per network observation, as my analytical tool only allows for binary network data and cannot deal with weighted network data. Other thresholds to reduce the overall amount of networks, such as collapsing the original 16 networks matrices into two (before and after the panel), three (beginning, pre- and post-panel period, and end period), or eight networks (four matrices before and four after the panel) bore similar results.

The matrices contain undirected ties, as the data does not allow me to determine beyond doubt which actor initiated the tie. I assume that individuals generally want to interact with other people at the event. If actors *i* and *j* meet and one person initiates a conversation the other person will reciprocate, at least until a new opportunity presents itself. Further, I assume that all actors are capable of changing their outgoing ties and that these changes are not random, but can be

explained by individual characteristics. All actors have full information about the existence of other actors in the room and I assume that each actor strives to maximize their satisfaction with conversation partners.

Tie satisfaction, tie creation, and tie maintenance. My dependent variable, a tie between two actors, is dichotomous and indicates the connection=1 or absence of a connection=0 between any two individuals. Tie satisfaction is a measure of general engagement and captures individuals who either have created a new tie since the previous time period or have maintained a connection with another person since the previous time period. As a next step, I specifically look at the creation and duration of ties. Tie creation is measured as new tie between two or more participants that has not existed at the previous time period. By the same logic, tie maintenance is measured as an existing tie between two or more participants that has existed at the previous time period.

Network variables. In my analysis I control for number of network ties, network closure, and tie reciprocity. These dynamics are defaults for analysis and must be included in each model. Outdegree measures the number of ties an actor has and thus captures the overall tendency to create ties. Positive values on this measure indicate tie creation as a haphazard process, whereas negative values indicate a more selective process. The variable 3-cycles measures network closure as the number of triplets who have a connection with each other. This variable indicates an actor's likelihood to network with a contact's contact to establish triadic closure.⁵ Reciprocity is a basic phenomenon in social networks research and measures the symmetry of exchange flows in a dyad (Wasserman, 1994).

Demographic controls. I controlled for demographic effects for gender (38% women), race (78% Caucasian), education (34% graduate degree), work experience (57% more than 3

years), and whether individuals attended the event alone (54% single). I included a dummy variable for each of these categories into the model. I also controlled for homophily effects for LaySI and all demographic variables (McPherson, Smith-Lovin, & Cook, 2001).

Stochastic Actor-Based Modeling

I analyze the dynamic network models using stochastic actor-based models for network dynamics (Snijders, Steglich, & Schweinberger, 2007; Snijders, 2001) in RSiena, version 1.1-282. (Simulation Investigation for Empirical Network Analysis; Ripley, Snijders, & Preciado, 2011). RSiena tests the effect of individual characteristics and structural variables on the likelihood of an actor to create, maintain, or terminate a tie. Parameters can thus be interpreted similar to log odds in logistic regression (Snijders, Van de Bunt, & Steglich, 2010). Similar to ordinary least squares regressions RSiena variables included in the model control for each other. I report the significance of results using Wald-type tests (Ripley et al., 2011, p.70; cf. Trapido, 2013).

Stochastic actor based models provide several advantages over standard regression models for this type of analysis. First, this method eliminates biases arising from assumptions of independence of networks or ignoring the dynamics of time. Instead, stochastic actor-based models consider the dynamics of changing relationships over time and account for interdependence (Snijders, 2014; Snijders et al., 2010). Snijders et al. (2007; Snijders, 2001; Steglich, Snijders, & Pearson, 2010) describe estimation procedures and mathematical specifications in full detail. Second, Siena allows accounting for actor- and network-specific variables simultaneously in a model. Third, instead of typical goodness of fit tests, stochastic modeling uses a generalized Neyman-Rao score to test convergence ratios of the included

estimates (Schweinberger, 2012). Reported effects in this paper all meet the criteria of good convergence ($t < .15$; Ripley et al., 2011; Snijders, 2001). Missing values are allowed in the study and are treated as non-informative for estimation.

Results

Network descriptives. I report descriptive statistics of network dynamics and individual characteristics in Table 12. Overall, I registered a total of 175 ties throughout the event. On average, participants created five ties at the event ($M=5.10$) with an average of one tie per period. This number stayed largely consistent throughout the event with a slight increase in the beginning periods and decrease towards the end of the event (see Figure 5). My model also includes rate functions that indicate the speed at which networkers change ties at the event. A high rate function indicates rapid turnover and frequent changes in conversation partners. The rate function parameters shown in Figure 5 indicate a rapid change in ties as the event begins followed by a slowing of the rate as the event progresses and an eventual drop towards the end of the event. This pattern confirms the progression of typical social events characterized by a vibrant initial period during which individuals get to know each other or catch up with acquaintances often followed by a period of longer conversations and increased tie duration as the event progresses.

Insert Table 12 about here

Insert Figure 5 about here

Looking into each period in more detail I find further evidence of the described event dynamics. Figure 6 shows the evolution of ties in each period (Table 13 complements Figure 6). In Period 1 I initially observe a relatively small network with a high clustering coefficient and short average path length. Over the following periods I observe a decrease in the clustering coefficient and an increase in average path length. In other words, the network is dispersing over time. Put differently, mingling and catching up with others is especially vibrant during the early time periods and gradually turns into more one-on-one conversations as the event progresses.

Insert Figure 6 about here

Insert Table 13 about here

Engagement. Table 14 reports the effects of LaySI on tie satisfaction (Model 1), tie creation (Model 2), and tie maintenance (Model 3) with other people at the event. LaySI significantly predicts satisfaction with ties ($b=-.75, SE=.20, p<.05$), indicating that people holding fixed theories tend to be less satisfied with their ties. Model 1 confirms the relationship between LaySI and tie satisfaction controlling for individual characteristics and homophily ($b=-1.29, SE=.27, p<.05$). These results indicate that people holding fixed theories either create fewer

ties with people or maintain shorter conversations. In Model 2 and Model 3 I disentangle these two alternatives and examine whether people holding fixed theories are more likely to create fewer ties (Model 2) or maintain conversations for shorter periods of time (Model 3).⁶ Results show that people holding fixed theories do indeed create fewer ties ($b=-3.04$, $SE=.55$, $p<.05$), whereas I do not see a significant effect for maintaining ties ($b=.93$, $SE=1.61$, $p=n.s.$). My results also show that women are more likely to create significantly more ties (Model 2: $b=1.14$, $SE=.27$, $p<.05$) while participants with more than 3 years of work experience create fewer ties (Model 2: $b=-1.87$, $SE=.53$, $p<.05$) and have shorter conversations (Model 3: $b=-.88$, $SE=.36$, $p<.05$).

Insert Table 14 about here

Homophily. While the above reported effects solely focus on actors' individual characteristics, the homophily effect accounts for similarity in characteristics between any two actors. Participants may only talk to people who share similar theories of social intelligence. In my analysis I don't find a homophily effect for lay theories ($b=-.13$, $SE=.67$, $p=n.s.$) and thus can rule out systematic attraction based on people's lay theories. Similarly, all other homophily effects in my analysis are insignificant.

Choosing conversations. Creating and maintaining ties entails emotional costs as well as search costs, thus I should not observe participants creating ties randomly or limitlessly. The negative effect of outdegree in Table 14 (Model 1: $b=-3.19$, $SE=.24$, $p<.05$) shows that participants tended to be highly selective in who they talk to. During the event, participants seemed to favor more one-on-one interactions, i.e. they primarily engaged in dyadic interaction

instead of interacting with conversation partners of conversation partners represented by the insignificant effect for triadic closure. (Model 1: 3-cycles: $b=-6.65$, $SE=99.00$, $p=n.s.$).

Discussion

Chapter 7 supports my argument that fixed theories inhibit actual engagement in networking (Hypothesis 1b). First, Chapter 7 examined actual networking behavior in a real-life setting and finds that people holding fixed theories are less satisfied with their ties. Second, I find that people holding fixed theories create fewer ties during an event. I did not observe significant effects of lay theories on tie maintenance. Third, using longitudinal data, Chapter 7 provides detailed insights into the behavioral dynamics throughout the networking event and avoids self-reported networks data that have been found to be biased by subjective perceptions (Bernard, Killworth, & Sailer, 1980; Quintane & Kleinbaum, 2011).

CHAPTER 8

General Discussion

Why do so many people feel disengaged from networking? Until recently, research on networks has largely overlooked the fact that many people feel conflicted about the idea of networking. Some question the utility of networking, wondering if learning golf or sending birthday cards will ever amount to anything. Others dismiss the idea of networking as morally questionable. The present research addresses such questions by examining how people think and feel toward the idea of networking. I argued that considering people's beliefs about social intelligence can help understand their attitudes toward networking. Believing that social intelligence is essentially fixed undermines a person's sense of efficacy and competence. Such a belief can also underscore the view that it is unfair to get ahead because of (innate) social intelligence.

Across five studies, I find compelling support for my argument: people's engagement in networking is shaped in important ways by their lay theories of social intelligence. People differ in their beliefs about whether social intelligence is fixed or malleable, and those with more fixed beliefs feel and act less engaged in networking. This pattern held across studies with different populations, whether lay theories were measured or induced, and whether networking events were recalled or experienced. Chapter 4 showed that the effect of lay theories on engagement is mediated by attitudes toward the utility and morality of networking. Chapter 5 – most important to people who struggle with the idea of networking – showed that lay theories can be changed based on new information which leads to increased engagement. To my best knowledge, this is the first empirical research to examine lay theories of social intelligence and their consequences for networking.

Theoretical Contribution

This dissertation contributes to different bodies of literature. First, I emphasize the relevance of motivational psychology for networking. Psychology has greatly contributed to our understanding of network formation, highlighting the effects of personality, perception, and social cognition. Yet, motivation, arguably the most powerful way for an individual to exert agency, has so far not gained much attention in the field. Rather than treating motivation as an epiphenomenon of rational choice or attribute of a person's predispositions, this dissertation identifies people's motivation as a central component in the process of network formation. Adding to the growing recognition of individual motivation – whether in the form of willpower (Baumeister & Tierney, 2011), grit (Duckworth, Peterson, Matthews, & Kelly, 2007), self-regulation (Oettingen et al., 2001), or habits (Gollwitzer & Sheeran, 2006) – lay theories matter for a person's achievement and success above and beyond, or perhaps more than, raw talent, aptitude, knowledge, or opportunities alone.

Second, I have shown the utility of examining networking from the perspective of lay theories. This approach is theoretically and methodologically novel to the literature on networks. For instance, the recognition that structural analysis of networks tends to underplay the important role that human psychology plays in network dynamics has led to a myriad of efforts to integrate various psychological factors into theories of networks (Brands & Kilduff, 2013; Casciaro, 1998; Kilduff et al., 2008; Smith et al., 2012). Yet, most of these efforts have focused on people's general predispositions (e.g. personality traits), behavioral patterns (e.g. networking strategies), or perceptions of network structures rather than how people actually think or feel about the idea of professional networking. My research complements such approaches by suggesting that a

more contextualized understanding of networking requires examining not just people's general predispositions, but also their domain-specific beliefs and attitudes, because instrumental networking differs from other forms of sociality, such as kinship, friendship, or casual encounters with strangers (Casciaro et al., 2014).

Third, this dissertation extends lay theories to a new arena. The idea of lay theories has inspired a significant body of research on individual motivation and goal achievement across a variety of domains, including social interactions, with implications for business relations, such as negotiation (Kray & Haselhuhn, 2007) and employee development (Heslin, Vandewalle, & Latham, 2006). The present work represents a new step beyond dyadic interactions to consider people's beliefs about the nature of networks and the idea of networking. By showing that how people feel about networking is rooted in important ways in their lay theories of social intelligence, a "LaySI" perspective helps lay the groundwork for a unique interdisciplinary link between motivational psychology and networks research.

Finally, applying the perspective of lay theories to networking contributes to a richer understanding of human agency in networks. Scholars have long debated the nature of agency, viewing it in either substantialist or relationalist terms by tracing the basis of social action to fixed attributes and traits versus configurations of relationships and the endogenous interactions and processes embedded in them (Emirbayer & Goodwin, 1994; Erikson, 2013). With this debate still unsettled the problem of agency continues to inspire examination of various psychological factors that affect networks (Burt, Kilduff, & Tasselli, 2013; Kilduff & Brass, 2010). Yet, far less attention has been paid to how people think or feel about networking. Lay theories are grounded in the idea that laypeople, not just academics and trained experts, hold different "theories" that influence their thinking and guide their social action (cf. Heider, 1958; Sewell Jr, 1992). I

contend that the concept of agency is incomplete without accounting for such beliefs and attitudes, as they shape the motivation to engage in networking as purposive, iterative, and deliberative action. While recent studies have tested the pervasive notion that many people feel conflicted about networking (Bensaou et al., 2013; Casciaro et al., 2014), why some people manage to reconcile such feelings remains unexamined. I recognize this important fact by viewing lay theories in particular, and beliefs in general, as antecedent to such attitudes and, consequently, as an important basis of agency that motivates, or demotivates, networking.

Implications for Practice

Like many personality differences, lay theories can be measured quite easily using simple scales modified for particular domains (Chiu, Dweck, et al., 1997; Dweck et al., 1995a). Lay theories are powerful because, much like academic theories, they are stable but not fixed; they organize our thoughts and actions from day to day in consistent manners, but a new theory can abruptly change the way we think. Unlike personality differences, a particularly attractive feature of lay theories is that they can be induced or primed through relatively simple interventions. For instance, in Chiu, Hong, and Dweck (1997), having participants read different versions of a fictitious *Psychology Today* article was sufficient to prime fixed versus growth beliefs about personalities among U.S. college students. Those who read the article supporting growth beliefs explained behaviors less as dispositions of people and instead focused more on the cultivation of skills.

In this vein, the present research suggests three contributions. First, I developed a scale for measuring lay theories of social intelligence. Second, I demonstrated an intervention to promote growth theories of social intelligence. A short article, distributed a day or two in

advance of the events, was enough to induce different mindsets toward networking and promote greater engagement. It is unclear from this research how long these effects persist without additional reinforcement. However, results from other studies show that even small interventions can produce positive results for weeks (Crum & Langer, 2007; Crum, Salovey, & Achor, 2013). Regardless of the duration of such interventions, the possibility that lay theories of social intelligence can be changed is still a key result for networking since it is often difficult to change people's personality traits or attitudes directly. Advising people to be more extraverted or charismatic is hard to put into practice. Similarly, telling people to network more, simply because networking is important is unlikely to be effective if people already believe that networking is important. However, changing people's lay beliefs has the potential to shape their behaviors at a deeper level because attitudes and behaviors often ensue from beliefs.

Finally, the idea of networking as a problem of beliefs and attitudes rather than external opportunities may inspire professionals to change the way they approach networking, because from the perspective of motivational psychology, networking is as much about managing oneself as it is about managing others. For anyone wary of the idea of using others implied by networking, focusing on lay beliefs as an internal locus of control may help approach networking in more positive terms of personal growth rather than dependency or exploitation. Such change in perspective should make it easier for professionals to make networking a more habitual exercise and help to develop a routine when, where, and how to engage with others.

Limitations

Limitations of the present research point to opportunities for future research to affirm and extend the idea about lay theories of networking. First, the present research only focused on

formal networking settings and professional networking events. However, successful networking consists of more than the weekly attendance of social mixers. More work is needed to understand the consequences of lay theories for networking outside of pre-arranged events, such as cold calling or having coffee meetings. In addition to physical situations, activities online, such as networking via LinkedIn, are also becoming increasingly important to identify opportunities. From the present set of studies, it is hard to make any inferences how lay theories would translate to engagement in such situations.

Second, this dissertation has solely focused on instrumental networking and ignores more affective forms of networking, e.g. career opportunities that develop out of personal friendships or relationships that develop in non-business contexts. Under such circumstances appropriate behavior and conversation topics may be entirely different to the professional domain. Affective – compared to instrumental – networking may follow different “rules” altogether (cf. Goffman, 1959). For affective networking the herein introduced lay theories may thus have no consequences or even detrimental consequences, as individuals may come off as trying too hard or pitching themselves when others expect a casual conversation.

Third, this dissertation has only focused on the effects of lay theories about whether the ability to network is determined by training and effort or by stable traits. Social intelligence is undoubtedly an important piece of the puzzle. Yet, going beyond the properties of individual actors, social networks also consist of relations between individuals and social capital flowing through these ties. Limiting this dissertation to one particular lay theory may hide interaction effects with other lay theories. Similarly, lay theories about social intelligence may turn out to be an inferior predictor to networking engagement than theories about relationships or theories about brokering resources through networks. For instance, it is not clear what the stronger

motivator for people to network is: developing networking skills (social intelligence theories), nurturing relationships (social relation theories), or bringing people together to exchange ideas (social resource theories). All of the above beliefs may have profound effects on networking engagement, yet may likely be invoked by theories about different levels of the network.

Future Directions

Future work should recognize how people think about the different levels of networks. People's conceptions of relationships as well as the resources flowing through these ties may affect their actions. (Podolny, 2001). For example, social capital can be viewed as a zero-sum pie for which all actors in a network compete (Burt, 1997) or as additive resource that can be expanded by integrating and connecting others in the network (Coleman, 1988; Stovel & Shaw, 2012). Likewise, the nature of relationships may be thought of in terms of destiny or chance, while others consider relationships to require ongoing commitment and care (Knee et al., 2003). Understanding how laypeople think about these subcomponents of networks may offer valuable new insights about networking and inform research on the evolution of networks.

Future research may also address how lay theories influence social perception. The herein proposed arguments center on the perception of one's own efforts and opportunities in networking, yet it does not become clear how these views of oneself shape the perception and interpretation of other people's behavior. For example, Chiu et al. (1997) show that, in the domain of personality, people holding fixed theories are more likely to attribute observed or described behavior to another person's predispositions. Similarly, in the domain of networking people may extrapolate the experienced conflicts to others. It is possible that evaluations about oneself, networks, and networking directly reflect on other people in the room. If so, implicit

theories, and the herein proposed interventions, may help to promote more positive and less judgmental environments to interact with like-minded people.

Related to the above point, future research may also investigate how lay theories affect the perception of networks and how individuals come to identify opportunities. Previous research has shown that personality traits influence the ability to spot opportunity within networks (Flynn et al., 2006). Likewise, people learn to spot opportunity based on the structure of their personal networks (Janicik & Larrick, 2005). This dissertation shows that growth-minded individuals engage more in networking. Yet, it is unclear whether engagement is undirected and primarily focused on increasing the overall size of one's personal network or may also influence strategic, directed choices about whom to befriend. Adding to the fruitful research on networking strategies (Bensaou et al., 2013; Shipilov et al., 2014; Vissa, 2012) lay theories may explain why some people engage in widening (vs. deepening) their network (Vissa, 2012), activate different parts of the network (Smith et al., 2012), or move into specific positions in the overall network (Sasovova et al., 2010).

Despite research on the effects of lay theories in a variety of domains, it is still not entirely clear how lay theories develop. Culture may be one important source of origin. Culture, much like lay theories for the individual, helps to collectively organize different norms and values and provide meaning systems. There are indicators that some cultures attend more to entities and categorical thinking. For instance, there is evidence that Western cultures "entify" people and objects to a greater extent than Eastern cultures (Nisbett, 2003; Nisbett, Peng, Choi, & Norenzayan, 2001). Such cultural predisposition may influence the likelihood of individuals to adopt a fixed or growth view about relationships. Better knowledge about the origins of lay theories may have wide implications for cultural intelligence and building effective networks

with a culturally diverse set of people – especially in a globalized world in which professional relationships across borders continue to gain importance.

Another interesting line of research may be to investigate the effects of power and status on lay theories. Power is an important dimension of social hierarchies in organizations and has profound effects on interpersonal exchange (Galinsky, Magee, Inesi, & Gruenfeld, 2006). Similar to networking ability or extraversion, power may be an important moderator for lay theories. For instance, Casciaro et al. (2014) show that powerful people feel less “dirty” about networking, because they are less concerned about the views of others. During networking events, people with power or high status may have an easier time finding conversation partners, partially because other people may recognize them to be valuable contacts and thus may approach them more readily. As a result, high power or status people may evaluate their many conversations as positive feedback on their networking efforts. This suggests that power and status may have a significant impact on the relationship between lay theories and engagement.

Other research on status suggests high status people activate wider networks in response to threats and uncertainty. Given that networking situations are potentially threatening to one’s self-esteem, high status individuals may perceive wider opportunities to connect with others during networking events.

Conclusion

This dissertation highlights the important, yet up to date largely neglected, role of motivational psychology for professional networking. I demonstrated that lay theories of social intelligence are an important lever to promote engagement in networking situations. Five studies using multiple methodologies found consistent evidence that individuals who hold growth beliefs

engaged more in networking. By comparison, people holding fixed theories reported to feel less engaged, engaged less during networking events and sought fewer opportunities to network. My studies found that fixed theories promote negative attitudes toward networking as onerous, futile activity, as well as unfair and illegitimate way to advance career prospects.

Simply knowing what one should do is often not enough to motivate action toward desired ends. Instead, changing people's lay theories can legitimize people's efforts and mobilize them to take the necessary actions. Motivational psychology is a powerful, yet relatively new framework, for networks scholars and I hope that future research will continue to investigate the cognitive antecedents of building and maintaining professional relationships.

Endnotes

¹ Although many of the items refer specifically to networking or networkers, I borrow the term “social intelligence” rather than constructs like “networking ability” or “political skill” (Ferris et al., 2007) for several reasons. First, I wish to underscore social intelligence as the general construct underlying networking rather than imply that networking entails unique skillsets or abilities. Second, my view of networking is closer to social intelligence than networking ability or political skill, which emphasizes political strategies rather than interpersonal effectiveness (Ferris et al., 2005). Third, the notion of intelligence invokes the nature-nurture perspectives that motivate the research on lay theories (Dweck, 1996). Thus, the goal of the scale is not to measure social intelligence in general but to examine how people view networking in terms of social intelligence as something fixed or malleable.

² It should be noted that Chapter 4 did not include a manipulation check to see if participants actually agreed with the priming text. Such a question may make participants overly reactive and bias our results. As such, however, I cannot rule out the possibility that our results may be caused by disagreement with the priming text. I thus reran Chapter 4 as a new study ($N=150$ from MTurk) with a manipulation check (strongly disagree=1 or strongly agree=6 with the text). I found that, in both experimental conditions, over 80% of our participants agreed, indicating 3 or above on the scale. Moreover, our results, including both the direct and the mediated effects of the priming text on engagement, were replicated very closely, particularly when 4 participants who “strongly disagreed” with the text were excluded. Excluding those who indicated “disagree” and “somewhat disagree” further strengthened our results. Finally, I found that, as participants disagreed more strongly, their attitudes and engagement toward networking reversed in relation to those who agreed, suggesting that our results are directly affected by the priming text.

³ This analysis does not fully control for how much people talked to friends versus individuals that could potentially be instrumental to one’s career. Such an analysis would require a more extensive survey or sociometric devices to track live interactions (Ingram & Morris, 2007). Both approaches were ruled out by the event organizers out of concerns for privacy and distraction. I hope to see future research address these issues.

⁴ Apart from controlling for the number of people met, another alternative explanation for my results is that people in the growth condition were perhaps interacting more with friends than strangers, resulting in greater engagement. Although I found that those in the growth condition met more new people, they may have also talked to even more friends. To address this concern, I examined one of the three items in the engagement scale, which specifically asked, “I valued the experience of meeting new people at Executive Search Panel and Cocktail Reception.” I repeated my analyses using this item alone and found nearly identical patterns, thus ruling out the alternative explanation.

⁵ In an analysis not reported here I also included dummy variables for each time period to control for time heterogeneity. These dummy variables are not part of the rate function but were added to all models to account for the inconsistent parameters across time. Including time period dummies did not change the results.

⁶ Model 2 and Model 3 only focus on the creation and termination of ties between two time periods irrespective of previous periods. Siena does not take into account ties, which had previously been established and terminated and are thus re-created. By collapsing the networks into two networks and re-running the analysis I still find significant effects for LaySI indicating that participants did indeed create ties with new people and not just re-connect with the same people.

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Appendix

Priming texts used in Chapters 4 and 5

Promises of Learning People Skills (Growth Condition)

(From Forbes, May 18, 2014)

From sales to job search to the rarefied world of the corporate board, a good network matters. Getting on a shortlist for promotion, finding the next big deal or having a flash of genius are all easier for those who develop the right connections. Still, while hardly anyone disputes the importance of “who you know,” academics have long debated what really makes an effective networker.

Despite the popular belief that networking well is largely a matter of who you are, dictated by your natural personality type or characteristics, a growing body of scientific research suggests that learned social skills play a much greater role over the course of one’s career. According to Paul Sealand, Professor of Organizational Behavior at Wharton Business School, networking is a skillset, much like learning a new language: “You might feel a little awkward at first, like a tourist abroad, but you will get better and better as you practice, even as an adult.” And the more fluent you become, “the more people you will meet, and the more genuine relations you will develop with each of them.”

In a forthcoming publication in the *Academy of Management Journal*, he reviewed 126 longitudinal studies that examined the relative importance of various factors that influence networking and found that the vast majority—58%—of a person’s networking ability is due to “people skills” that can be learned and honed over time, and 28% was traced to unique organizational and occupational factors such as where one works. “What was surprising was that innate personality characteristics like charm, optimism, or extraversion accounted for only 14% of a person’s ability to build a network.” In fact, over the course of a person’s adult life, networking ability may improve by more than 23% through practice.

Dr. Terry Batten of Harvard Business School offers another analogy: “We should approach networking the same way we exercise. Many people feel that networking is unnatural. Well, nobody gets fit by working out whenever they feel like it. Building a network is very much the same.”

In a recent study of 87 mid-level executives, he and his colleagues found that after intense training over an 8-week period, 95% of executives significantly improved their overall networking ability over the 1-year period after. In other words, there is more to good networking than simply trying to “Be yourself.”

Limits of Learning People Skills (Fixed Condition)

(From Forbes, May 18, 2014)

From sales to job search to the rarefied world of the corporate board, a good network matters. Getting on a shortlist for promotion, finding the next big deal or having a flash of genius are all easier for those who develop the right connections. Still, while hardly anyone disputes the importance of “who you know,” academics have long debated what really makes an effective networker.

Despite the popular belief that networking well is largely a matter of learning social skills, a growing body of scientific research suggests that inborn dispositions and natural personality characteristics play a much larger role in one’s career. According to Paul Sealand, Associate Professor of Organizational Behavior at Wharton Business School, individual aptitude for networking is set early in life, much like learning a new language: “Children are remarkable at learning new languages, but once they reach adulthood, they have much harder time switching accents or learning new grammar. Our ability to learn social skills seems to follow a similar life cycle, limiting the extent to which we can build genuine relations through effort alone.”

In a forthcoming publication in the *Academy of Management Journal*, he reviewed 126 longitudinal studies that examined the relative importance of various factors that influence networking and found that the vast majority—58%—of a person’s networking ability was due to innate personality traits like charm, optimism, or extraversion and 28% was traced to unique organizational and occupational factors such as where one works. “What was surprising was that learning people skills accounted for only 14% of a person’s ability to build a network.” In fact, over the course of a person’s adult life, networking ability may improve by only about 2% despite practice.

Dr. Terry Batter of Harvard Business School offers another analogy: “Many people misunderstand networking the same way they misunderstand exercising. We can run every day or push ourselves in the gym to stay as fit as we can, but it is very difficult to change our natural body types. Some body types naturally respond more to exercise than others. Networking is the same.”

In a recent study of 87 mid-level executives, he and his colleagues found that despite intense training over an 8-week period, 95% of executives failed to improve their overall networking ability over the 1-year period after. In other words, “Be yourself” may be the best we can do.

Table 1: *Effects of Lay Theories of Social Intelligence on Networking Engagement Mediated by Attitudes.*

Lay Theories	Attitudes		Engagement	
<i>Fixed</i>	<i>Utility</i>	<i>Morality</i>	<i>Subjective</i>	<i>Objective</i>
SI is innate; based on fixed personality traits.	Using SI to build new ties is futile	Using SI to build new ties is unfair	Feel less engaged, less meaningful, enjoyable, and valuable	Create fewer ties, avoid networking opportunities
<i>Growth</i>				
SI is a trainable skill; can be nurtured and developed	Using SI to build new ties is beneficial	Anyone can use SI to build new ties	Feel more engaged, more meaningful, enjoyable, and valuable	Create more ties, seek networking opportunities

Table 2: *Descriptive Statistics and Correlations for Chapter 3, Scale Development.*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1 LaySI (6=fixed)	3.13	.78								
2 Lay Theories of Personality	3.52	1.08	.28***							
3 Big 5: Extraversion	3.83	1.50	-.32***	-.02						
4 Big 5: Agreeableness	5.37	1.04	-.23*	-.18	.14					
5 Big 5: Conscientiousness	5.61	1.05	-.10	-.02	-.07	.15				
6 Big 5: Emotional Stability	4.91	1.51	-.11	.00	.22*	.28***	.19			
7 Big 5: Openness	5.18	1.30	-.18	-.13	.22*	.12	.07	.26**		
8 SM: Self-Presentation	4.58	.65	-.30***	-.21*	.36***	.09	.04	.40***	.15	
9 SM: Sensitivity	5.04	1.02	-.05	.00	.12	.23*	.25**	.01	.32***	.25**

Note. SM=Self-Monitoring. Big 5=Dimensions of Big 5 personality traits. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 3: *First-Order Factor Analysis with Varimax Rotation showing Loadings of LaySI, Lay Theories of Personality, Big Five Personality Traits, and Self-Monitoring.*

Rotated Component Matrix	Components							
	1	2	3	4	5	6	7	8
Eigenvalue	4.65	3.79	3.38	2.81	1.82	1.30	1.13	1.05
% of Variance	21.82	17.75	15.85	13.18	8.54	6.09	5.33	4.93
Cumulative Variance	21.82	39.57	55.42	68.60	77.13	83.22	88.56	93.48
SM: Self-Presentation 1	.75							
SM: Self-Presentation 2	.81							
SM: Self-Presentation 3	.88							
SM: Self-Presentation 4	-.89							
SM: Self-Presentation 5	.80							
SM: Self-Presentation 6	.50							
SM: Self-Presentation 7	.62							
SM: Sensitivity 1		.84						
SM: Sensitivity 2		.81						
SM: Sensitivity 3		.83						
SM: Sensitivity 4		.63						
SM: Sensitivity 5		.67						
SM: Sensitivity 6		.63						
LaySI 1			.84					
LaySI 2			.84					
LaySI 3			.55					
LaySI 4			.64					
LaySI 5			.67					
LaySI 6			.67					
Lay Theories of Personality 1				.88				
Lay Theories of Personality 2				.88				
Lay Theories of Personality 3				.93				
Big 5: Emotional Stability1					.75			
Big 5: Emotional Stability2					.77			
Big 5: Agreeableness 1					.52			
Big 5: Agreeableness 2								
Big 5: Extraversion 1						.70		
Big 5: Extraversion 2						.64		
Big 5: Openness 1							.66	
Big 5: Openness 2							.70	
Big 5: Conscientiousness 1								.64
Big 5: Conscientiousness 2								.56

Note. Blank cells represent absolute loadings less than .4. SM=self-monitoring; Big 5=dimensions of Big 5 personality traits.

Table 4: Descriptive Statistics and Correlations for Chapter 3, Scale Validation.

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 LaySI (6=fixed)	3.10	.86																
2 Engagement	4.02	1.41	-.37***															
3 Create Ties	1.80	1.21	.10	.30**														
4 Maintain Ties	2.78	1.58	-.11	.40***	.43***													
5 Age	32.71	10.65	-.17	-.11	-.25*	-.22*												
6 Education	2.17	.66	-.06	-.13	-.03	-.05	-.20											
7 Male	.59	.50	.09	-.04	-.02	.12	-.06	.06										
8 Work Experience	3.37	1.07	-.25*	-.05	-.24*	-.03	.83***	-.12	-.05									
9 White	.70	.46	-.10	-.10	-.07	.04	.25*	.03	.00	.35***								
10 Lay Theories of Personality	3.31	1.11	.60***	-.25*	.10	-.08	-.10	.01	-.05	-.13	.06							
11 Extraversion	4.04	1.75	-.19	.49***	.22*	.40***	-.13	.03	-.04	-.01	.08	-.18						
12 Agreeableness	6.17	1.36	-.21*	.15	-.18	-.07	.15	.04	.03	.24*	.14	-.23*	.14					
13 Conscientiousness	6.20	1.31	-.06	.12	-.19	.01	.19	-.08	-.11	.22*	.11	.07	.19	.19				
14 Emotional Stability	5.35	1.71	-.21*	.09	-.09	.06	.16	-.01	.08	.20	.08	-.10	.14	.41***	.45***			
15 Openness	5.70	1.34	-.08	.17	-.11	.06	-.13	.01	-.07	.03	.05	-.05	.22*	.37***	.14	.19		
16 SM: Presentation	4.70	1.15	-.13	.27**	.05	.11	-.16	.11	.05	-.05	.08	-.08	.23*	.12	.05	.12	.35***	
17 SM: Sensitivity	4.99	1.03	.01	.02	.07	.03	-.14	.04	-.01	-.11	.09	.16	.04	.26**	.22*	.10	.22*	.13

Note. Education: 1=graduate degree, 2=college or university, 3=high school, 4=junior high school. Work experience: 1=none, 2=less than 1 year, 3=1-2 years, 4=3-5 years, 5=5 years or more. The other racial categories (Black, Hispanic, South Asian, East Asian, other) did not show significant correlations and are omitted. SM= Self-Monitoring. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 5: *First-Order Factor Analysis with Varimax Rotation showing Loadings of Attitudes toward Utility and Morality.*

Rotated Component Matrix	Components	
	1	2
Eigenvalue	2.78	2.37
% of Variance	55.11	46.96
Cumulative Variance	55.11	102.08
Morality 1	.78	
Morality 2	.70	
Morality 3	.70	
Morality 4	.75	
Utility 1		.75
Utility 2		.59
Utility 3		.58
Utility 4		.77

Note. Blank cells represent absolute loadings less than .5

Table 6: *Descriptive Statistics and Correlations for Chapter 4.*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1 LaySI (6=fixed)	3.28	1.15								
2 Engagement	4.07	1.53	-.23**							
3 Attitude toward Utility	3.33	1.38	-.38***	.67***						
4 Attitude toward Morality	3.45	1.46	-.41***	.55***	.77***					
5 Age	33.03	1.22	-.01	-.09	.09	.16*				
6 Education	2.24	.65	-.02	.12	.06	.01	-.06			
7 Male	.52	.50	-.06	.18*	.16	.21**	-.07	.07		
8 Work Experience	4.52	.98	-.11	.06	.06	.11	.39	-.05	.00	
9 White	.73	.45	.06	.01	.07	.10	.33***	-.03	.06	.48***

Note. Education: 1=graduate degree, 2=college or university degree, 3=high school, 4=junior high school. Work experience: 1=none, 2=4 years or less, 3=5-10 years, 4=11-20 years, 5=21 years or more. The other racial categories (Black, Hispanic, South Asian, East Asian, other) did not show significant correlations and are omitted. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 7: *Effects of LaySI on Subjective Engagement from OLS Regression.*

	Model 1	Model 2	Model 3
Condition	-.38* (.16)	-.10 (.13)	-.15 (.14)
Attitude toward Utility		.71*** (.07)	
Attitude toward Morality			.52*** (.08)
Constant	.73* (1.11)	-.44 (.84)	-.04 (.97)
R^2	.16	.53	.38
N	150	150	150
BIC	616	533.7	575.1

Note. Standard errors are in parentheses. Condition is coded 1=growth condition, 2=control condition, 3=fixed condition. All models include age, race (White, Black, Hispanic, East Asian, South Asian, and other), gender, education (graduate degree, college or university, high school, junior high school), and work experience (1=none, 2=4 years or less, 3=5-10 years, 4=11-20 years, 5=21 years or more). * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 8: *Effects of Experimental Manipulation on LaySI and Subjective Engagement from Structural Equation Modeling.*

	LaySI	Engagement
Fixed Condition	.57**	-.90**
	(.20)	(.31)
LaySI (6=fixed)		-1.89***
		(.52)
People Met		-1.22
		(.65)
LaySI x People Met		.63**
		(.20)
Constant	2.09***	10.05***
	(.51)	(1.89)

Note. $N=50$, Log likelihood Ratio=93.51, CFI=.32. Standard errors are in parentheses. All models include race (White, Black, Hispanic, East Asian, South Asian, other), gender, matriculation status (MBA, executive MBA, alumnus), event attended, and response speed. * $p<.05$, ** $p<.01$, *** $p<.001$.

Table 9: Descriptive Statistics and Correlations for Chapter 6.

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9
1 LaySI (6=fixed)	2.96	.65									
2 Events	1.06	1.58	-.05								
3 Networking Ability	60.71	18.33	-.01	.10							
4 Big 5: Extraversion	54.45	10.13	-.12	.00	.27***						
5 Big 5: Neuroticism	50.38	9.50	.03	.12	-.11	-.01					
6 Big 5: Openness	58.83	9.41	-.02	.00	.00	-.07	.00				
7 Big 5: Agreeableness	43.06	9.04	-.04	-.09	-.06	-.05	-.01	.22**			
8 Big 5: Conscientiousness	55.86	11.35	-.12	.00	.21**	-.11	-.05	-.05	.02		
9 Female	.39	.49	.04	-.06	-.17*	-.21**	-.08	.04	-.10	.01	
10 Age (in years)	22.57	1.16	.00	-.08	-.10	-.08	.17*	.13	.10	.03	-.17*

Note. Events: count measure of professional networking events respondents participated. Networking Ability: self-rated measure in comparison to classmates, 0=worst in class – 100=best in class. Big 5: Dimensions of Big 5 personality traits, 0=strongly disagree – 100=strongly agree.

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

Table 10: *Interaction Effects of LaySI with Networking Ability and Extraversion.*

	Model 1	Model 2
	Engagement	Engagement
LaySI (6=fixed)	-.60** (.23)	-.49* (.21)
Networking Ability	.02* (.01)	
LaySI x Networking Ability	.03*** (.01)	
Extraversion		-.03 (.01)
LaySI x Extraversion		.07*** (.02)
Constant	3.93 (2.60)	2.60 (2.52)
Pseudo R^2	.10	.10
N	135	135
BIC	452.7	452.1

Note. Negative binomial regression. Engagement (DV) is a count variable measuring how many networking events participants participated over the course of a semester. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 11: *Interaction Effects of LaySI with Extraversion Dimensions on Networking Engagement.*

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Engagement	Engagement	Engagement	Engagement	Engagement	Engagement
LaySI (6=fixed)	-3.24*	-2.96*	-2.49	-2.60	-1.73	-1.80
	(1.38)	(1.41)	(1.42)	(1.39)	(1.71)	(1.37)
Warmth	-.00					
	(.02)					
LaySI x Warmth	.06*					
	(.03)					
Outgoingness		-.00				
		(.01)				
LaySI x Outgoingness		.05*				
		(.02)				
Excitement Seeking			.01			
			(.02)			
LaySI x Excitement Seeking			.04			
			(.02)			
Positive Emotions				-.01		
				(.01)		
LaySI x Positive Emotions				.04		
				(.02)		
Assertiveness					-.01	
					(.02)	
LaySI x Assertiveness					.03	
					(.03)	
Activity Level						.02
						(.02)
LaySI x Activity Level						.03
						(.02)
Constant	.19	.15	-.35	.50	.73	-.85
	(.87)	(.87)	(.94)	(.80)	(.92)	(.94)
Pseudo R^2	.02	.01	.01	.01	.00	.01
N	135	135	135	135	135	135
BIC	402.5	403.6	404.8	404.5	406.8	405.6

Note. Negative binomial regression. Engagement (DV) is a count variable measuring how many networking events participants participated over the course of a semester. Results show the interaction effects for each extraversion dimension captured by the NEO-PI scale with LaySI. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 12: *Descriptive Statistics and Correlations for Chapter 7.*

Variable	Mean	SD	1	2	3	4	5	6
1 LaySI (6=fixed)	3.12	.86						
2 Create Ties	5.10	4.56	-.27					
3 Female	.38	.49	.24	.15				
4 Graduate Degree	.34	.48	-.02	.05	-.03			
5 White	.78	.40	-.01	-.22	.22	-.44*		
6 Work Experience>3 years	.57	.48	-.08	.28	.03	.07	.05	
7 Single Attendant	.54	.50	.16	.55**	.03	.02	-.38*	.27

Note. Create Ties is a count variable and captures the number of conversations individuals had at the event. Graduate Degree, White, Work Experience>3 years, and Single Attendant are dummy variables. The other racial categories (Black, Hispanic, South Asian, East Asian, other) did not show significant correlations and are omitted. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 13: *Network Dynamics over Time Complementing Figure 5.*

Variable	Period 1	Period 2	Period 3	Period 4
Clustering Coefficient	.77	.60	.62	.47
Average Path Length	2.31	3.06	3.57	3.54

Note. Individuals who did not have any tie during a period are not considered for that period in this Table.

Table 14: *Stochastic Actor-based Models for Tie Satisfaction, Creating Ties, and Maintaining Ties.*

	Model 1 Tie Satisfaction	Model 2 Create Ties	Model 3 Maintain Ties
<i>Rate Parameters:</i>			
Period 1	4.12 (.86)	4.22 (.88)	3.90 (.82)
Period 2	7.82 (1.89)	8.22 (1.94)	6.68 (1.57)
Period 3	1.88 (.32)	1.93 (.34)	1.80 (.31)
<i>Parameters:</i>			
LaySI (6=fixed)	-1.29* (.27)	-3.04* (.55)	.93 (1.61)
LaySI x Similarity	-.13 (.67)	-.06 (.67)	-.40 (.68)
Female	1.01* (.23)	1.14* (.27)	.35 (.37)
Female x Similarity	.08 (.16)	.08 (.16)	.07 (.16)
Graduate Degree	.37 (.34)	.43 (.38)	.41 (.36)
Graduate x Similarity	.37 (.36)	.39 (.33)	.43 (.38)
Caucasian	.58 (.38)	.61 (.38)	.25 (.48)
Caucasian x Similarity	.27 (.20)	.27 (.19)	.29 (.19)
Work Experience>3 years	-1.72* (.49)	-1.87* (.53)	-.88* (.36)
Work Experience>3 years x Similarity	.10 (.31)	.11 (.32)	.18 (.31)
Singe Attendant	.24 (.44)	.38 (.48)	-.90 (.56)
Single x Similarity	.24 (.31)	.26 (.32)	.26 (.35)
Outdegree (density)	-3.19* (.24)	-3.27* (.24)	-3.01* (.26)
Reciprocity	-6.42 (6.46)	-6.52 (31.92)	-6.34 (6.42)
3-cycles	-6.65 (99.00)	-5.16 (32.49)	-6.71 (99.00)
<i>N</i>	64	64	64
Convergence criterion ($t < .15$) met	Yes	Yes	Yes

Note. All network covariates are 64 by 64 matrices. Standard errors are in parentheses. Similarity: homophily effect. Due to modeling constraints of RSiena all variables are coded as dummy variables. * $p < .05$

Figure 1: *A Conceptual Model of Engagement in Networking.*

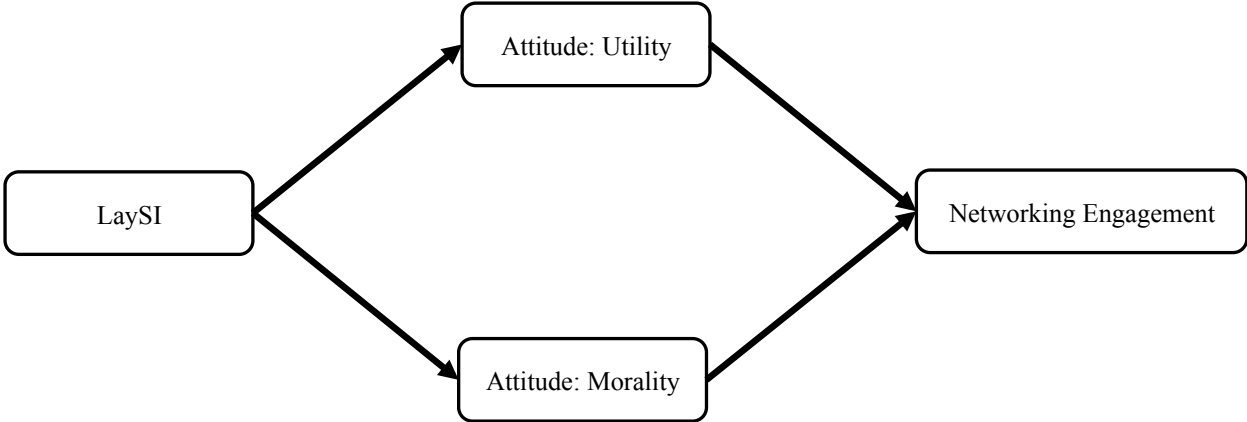
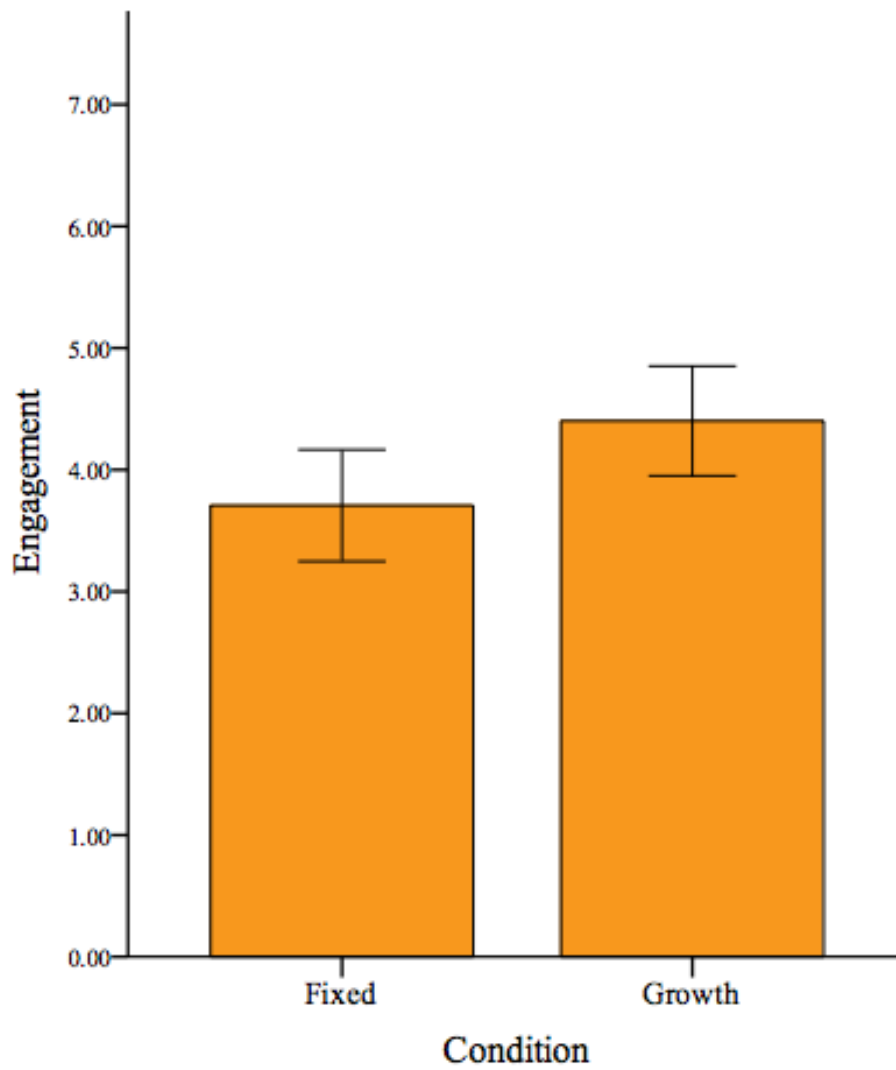
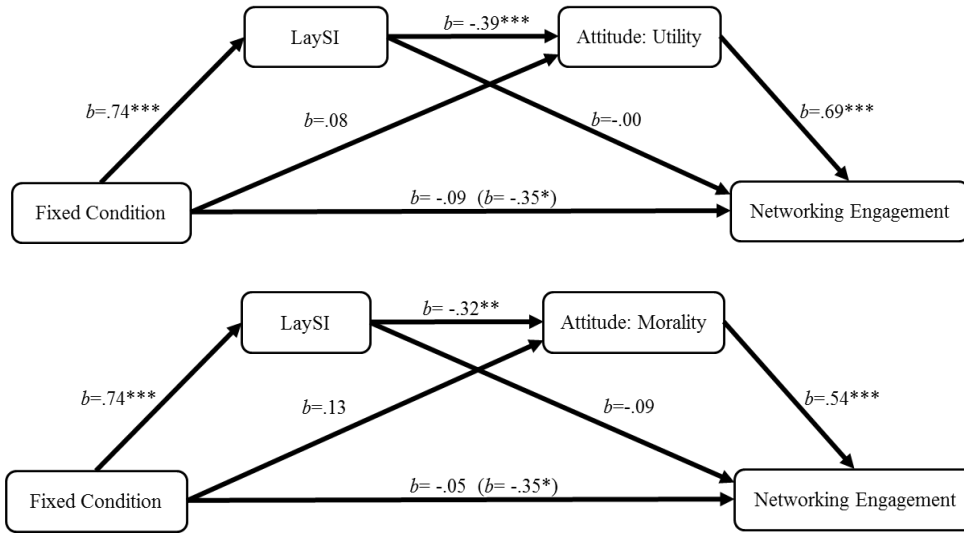


Figure 2: *Effect of Priming on Subjective Engagement.*



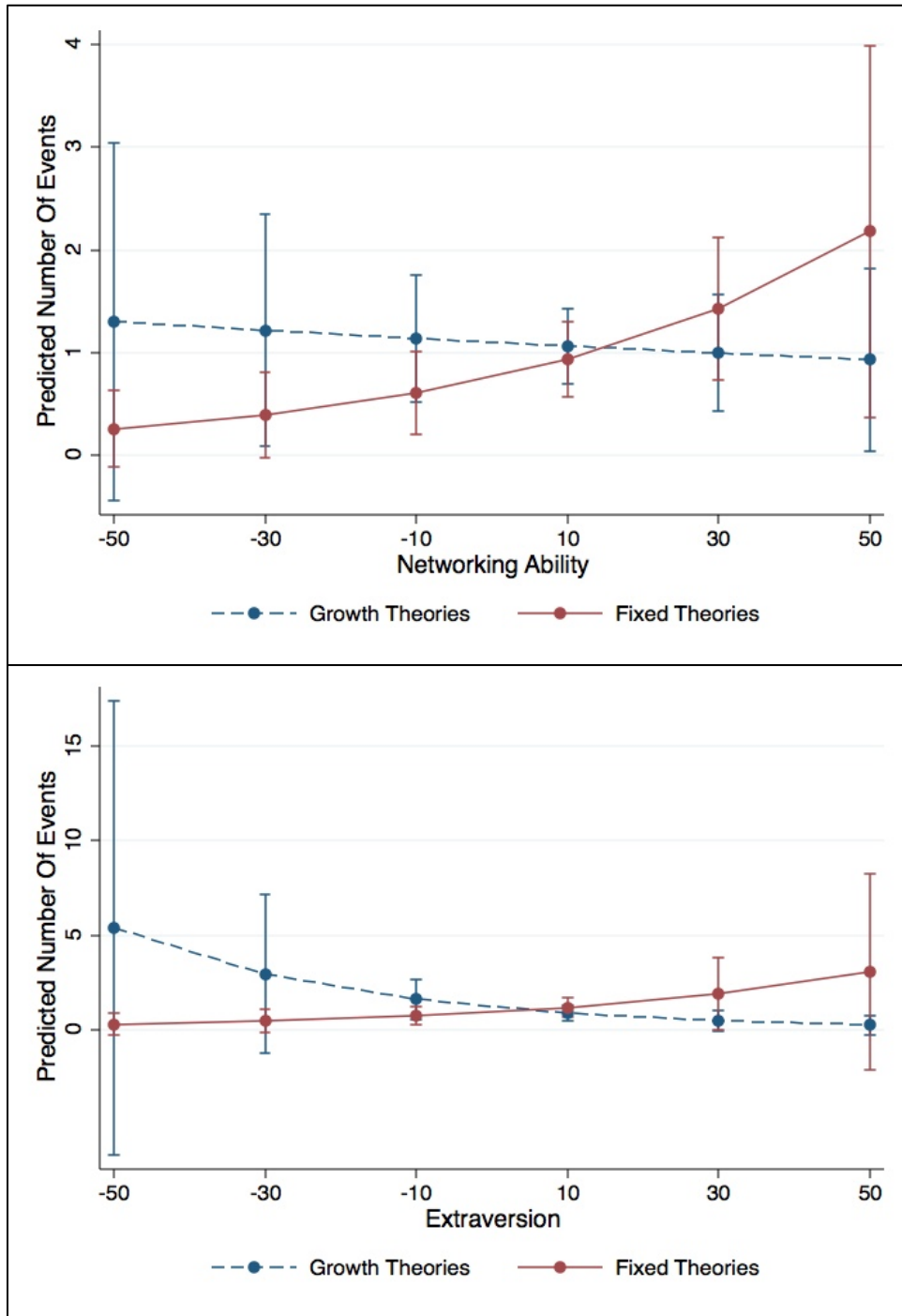
Note. Error Bars represent 95% Confidence Interval. $p < .05$

Figure 3: Mediation Effects of Utility (Top) and Morality (Bottom) on Subjective Engagement.



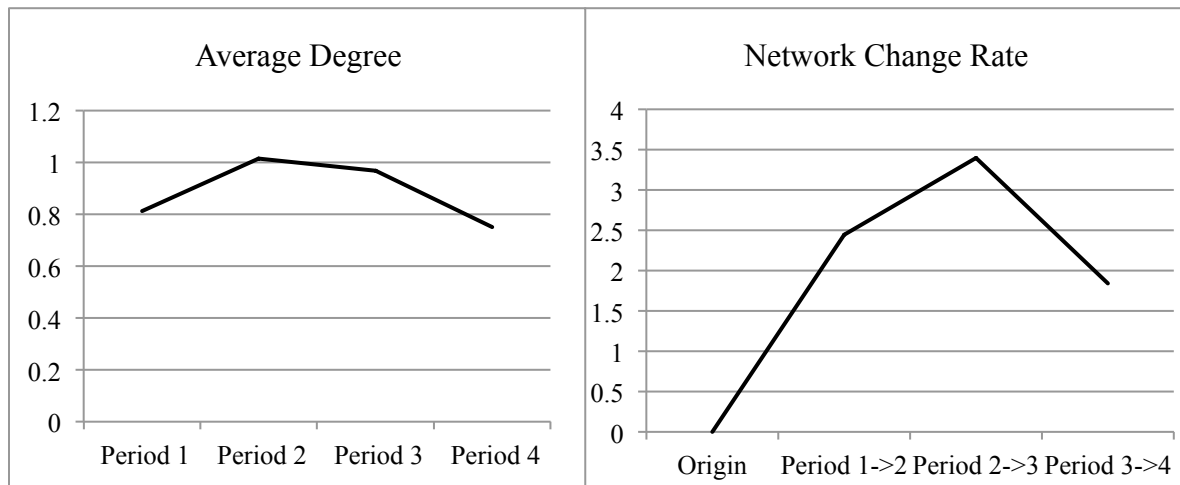
Note. Estimates from structural equation modeling. Coefficients in parentheses show the direct effect without controlling for the indirect effect. $*p < .05$, $**p < .01$, $***p < .001$.

Figure 4: Margin Plots for the Interactions of LaySI with Ability and Extraversion.



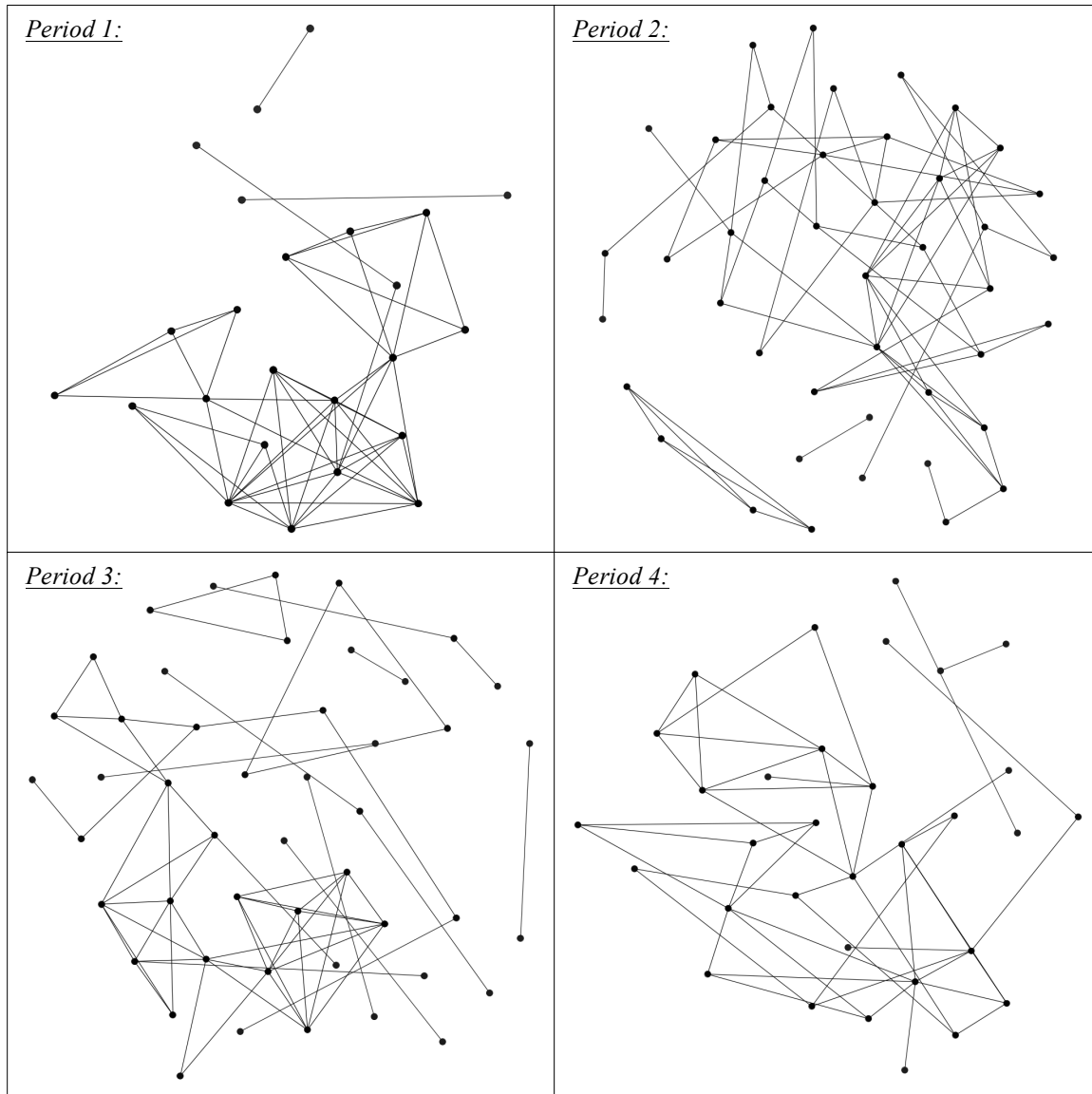
Note. Adjusted prediction of LaySI based on the margins plot of negative binomial regression. Whiskers represent 95% CI. Networking Ability and Extraversion are normalized.

Figure 5: *Parameter Change in Tie Creation and Speed of Change during a Professional Networking Event*



Note. Average degree for each participant per period and network change rate between periods. The average degree per actor remains largely stable at around 1 degree per period. This means that actors on average have 1 conversation partner per period. The network change rate indicates the speed of tie changes in a network. In the beginning of the event I observe high change rates that begin to slow down and finally reverse as the event matures.

Figure 6: *Network Evolution during a Professional Networking Event*



Note. Change of relationships over time. Each period comprises four networks that are aggregated. Circles represent individuals. Lines represent conversations that individuals had with other event participants during this period of the event. Actors who had no conversation during a period are not represented. I observe a relatively small, clustered network component in period 1. In period 2, conversation ties are more scattered and one big, loosely connected network component emerges. Period 3 and 4 resemble period 2 but decreasing number of conversations and fewer ties per actor.