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Lay theories of networking ability: Beliefs that inhibit instrumental networking

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ABSTRACT

While touting the importance of building effective networks, scholars have paid far less attention to why so many people feel so ambivalent or conflicted about instrumental networking, and what can be done to change such attitudes. The present research provides the first empirical test of a novel theory, which argues that people are more likely to disengage from networking if they hold a "fixed theory" of networking ability—believing that how well one networks is fixed or innate rather than learned through effort—which triggers negative attitudes toward moral and instrumental aspects of networking. To test this argument, we first develop and validate a Lay Theory of Networking Ability scale (Study 1) and show that this scale predicts people's attendance in networking events over a 6-week period (Study 2). Next, we show that lay theories can be experimentally manipulated, with consequences for attendance in networking events over a 4-week period (Study 3) as well as people's affective experiences in networking events (Study 4). In all, the present research contributes to our understanding of the motivational psychology of networking by highlighting the importance of beliefs as an understudied construct in the networks literature and by introducing methods to measure and manipulate them.

Introduction

Decades of research has shown far-reaching consequences of "who you know" across life and business, from getting jobs (Granovetter, 1974) to getting ideas (Burt, 2004), closing deals (Mizruchi and Stearns, 2001), getting promoted (Burt, 1992), feeling satisfied (Flap and Völker, 2001), and more (Borgatti and Foster, 2003; Brass et al., 2004). At the same time, researchers have only recently begun to recognize just how ambivalent, uneasy, or conflicted many people feel about instrumental networking (Casciaro et al., 2014; Walter et al., 2015). Even among seasoned professionals (Bensaou et al., 2013) or jobseekers (Wanberg et al., 2000) who recognize the urgency of networking, many people still struggle with the idea of building and using relationships to get ahead as morally questionable: unfair, insincere, even dirty. Others dismiss networking as an onerous exercise at human relations—futile at best, threatening at worst, and rarely gratifying. It is perhaps no exaggeration that few other words in business conjure images of sleaze and desperation as vividly as "networking."

Building on these observations, the present research seeks to deepen our understanding of who holds such negative attitudes toward networking, why, and how they can be changed. Our theoretical framework draws on the novel claim that people's attitudes toward networking may be rooted in their *lay theories of networking ability* (Kuwabara et al., 2018).[1] Lay theories refer to everyday beliefs laypeople hold about the malleability of various human attributes, such as whether intelligence is essentially inborn and fixed or can be grown over time. A substantial body of research has shown that whether one holds such a *fixed* or *growth* theory can have pervasive consequences for motivation and performance in a given domain (for a review of this literature, see Dweck, 2000, 2007). Children with a fixed theory of intelligence show reduced motivation to persist and perform on cognitive tasks, compared to those with a growth theory who view intelligence as changeable (Mueller and Dweck, 1998). Extending these ideas about cognitive ability to networking ability, Kuwabara et al. (2018) suggest that people also differ in their lay theories of networking ability as primarily fixed (e.g., based on innate traits or attributes)

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[1] Kuwabara et al. (2018) refer to this construct as "lay theories of social intelligence."

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versus malleable (e.g., learned through effort) and that holding a fixed theory inhibits networking by invoking negative attitudes toward networking.

Our goal in the current research is to present the first direct empirical test of this argument. Using multiple methodologies (online surveys, longitudinal studies, field experiments) and populations (online volunteers, students enrolled in MBA programs, working professionals), we examine whether 1) people vary in their lay theories of networking ability apart from various other individual differences, 2) those with fixed theories of networking ability are less likely to engage in networking, and 3) experimentally inducing growth theories promotes networking. In all, we make novel contributions to both theory and methodology by establishing lay theories of networking ability as a novel construct, by validating methods to measure and manipulate them, and by highlighting the importance of understanding what people believe about networks and how such beliefs affect their attitudes and motivation toward networking.

Although we do not believe that lay theories are the only variable that affects how people feel about networking, we focus on lay theories for several reasons. First, lay theories are typically construed as domain-specific beliefs. This is crucial for understanding instrumental networking because many people enjoy social networking to meet friends but feel quite differently about networking for instrumental relations (Casciaro et al., 2014). Broad individual differences like personality traits or demographics cannot readily or directly explain such variance in attitudes across domains (Anderson, 2008; Mischel and Shoda, 1995), much as general intelligence cannot reliably predict how a student might feel about a particular subject (Cech et al., 2011). This is not to claim, of course, that domain-general individual differences are unimportant, only that their effects are often theoretically distal (Frese and Fay, 2001). In order to understand how people feel about a particular domain, we must look beyond stable, domain-general traits and consider domain-specific beliefs and attitudes.

Second, lay theories can be taught or learned "on the spot" using relatively simple interventions, often with lasting effects (Kray and Haselhuhn, 2007; Levy et al., 2001; Paunesku et al., 2015). This has novel implications for both research and practice, such as designing experimental studies or training programs, given that many individual differences in networking, including personality traits (Fang et al., 2015; Kalish and Robins, 2005) and general abilities (Fang et al., 2014), are relatively slow to change, often over the course of a life history, in the aftermath of life-changing events, or through sustained therapeutic efforts (Roberts and Mroczek, 2008; Tasselli et al., 2018).

Finally, the concept of lay theories speaks to an important gap in the networks literature. Researchers have made significant advances in our understanding of various psychological antecedents of personal networks (Casciaro et al., 2015; Porter and Woo, 2015; Tasselli et al., 2015), from personality traits (Fang et al., 2015; Kalish and Robins, 2005; Totterdell et al., 2008) to networking styles (Vissa, 2012), demographics and identity (Ely, 1994; Ibarra, 1993), affect and emotions (Shea et al., 2015; Srivastava, 2015), and cognition (Brands, 2013), including network perception (Casciaro, 1998), learning (Janicik and Larrick, 2005), and recall (Smith et al., 2012). In comparison to these efforts, far less attention has been paid to what people believe about networks, and how such beliefs might shape their motivation to network. Apart from certain exceptions (e.g. Anderson, 2008; Kanfer et al., 2001; Shea and Fitzsimons, 2016), empirical research on networks has sidestepped motivation by and large, either "assuming it away" (treating motivation to network as "coincident with opportunity" and people as rational opportunists) or "holding it constant" (controlling for dispositional correlates of networking such as personality traits) instead of explicitly theorizing what motivates people—and some more than others—to shape, maintain, or leverage their network ties (Burt, 2012: 545–546). The idea of lay theories helps to address this gap and shed new light on the longstanding discourse on agency—to what extent networks are shaped by purposive and proactive individual action (Emirbayer and Goodwin, 1994; Mehra et al., 2001).

Theory and hypotheses

Kuwabara et al. (2018) propose an integrative, multi-level model that specifies lay theories of networking ability, social relations, and social capital as three distinct belief-systems, each with mutually independent effects on tie expansion, tie maintenance, and tie leverage. As a first test of this model, the current research focuses specifically on the effects of lay theories of networking ability on individual motivation to build new ties. Below, we explain how and why lay theories about networking ability might inhibit networking (Hypothesis 1) by invoking negative attitudes toward networking (Hypothesis 2). We also consider whether the effect of lay theories on networking may be moderated by networking ability (Hypothesis 3). Our goal is to explain lay theories as a motivational antecedent of networking rather than downstream consequences of network formation on individual performance or outcomes, which have been examined and reviewed extensively elsewhere (e.g. Borgatti and Foster, 2003; Brass et al., 2004).

Professional-instrumental networking

Networking encompasses a variety of activities and settings, from attending mixers to browsing LinkedIn to playing weekday golf with clients. Following earlier work (Casciaro et al., 2014; Porter and Woo, 2015; Wolff and Moser, 2009), we define professional-instrumental networking (or simply "networking") as purposeful or proactive efforts to build, manage, or leverage social ties in support of professional goals, and networking ability as how well one performs these tasks. This definition precludes involuntary interactions or spontaneous encounters that occur without premeditation, often initiated by others. It also precludes purely social relationships that lack instrumental functions.

Following these ideas, the present research focuses on networking events, such as trade shows, mixers, and job fairs, for two reasons. First, they are methodologically useful because they provide relatively concrete and uniform settings that evoke prototypical imageries of networking (such as the endless handshakes and small talk that many people dread). That is, most people understand what networking events look and feel like even if they do not enjoy them. Second, they are theoretically appropriate since our goal is to examine people's motivation to network. Attending networking events is not the only (let alone the most effective or enjoyable) way to network, but it is a useful test of how motivated people are to network, much as going to the gym may be a reasonable proxy for a person's commitment to exercising. Although people do not always mix at mixers as much as they intend to (Ingram and Morris, 2007), it is reasonable to assume that attending networking events generally indicates greater motivation to meet people than not going to events.[2]

Besides attendance in networking events, we also examine people's affective experiences of attending these events. As self-determination theory (Deci et al., 1994) suggests, behavioral engagement (e.g., effort, persistence, or repetition) in a task may not predict affective experiences of engaging in the task, i.e. the degree to which people feel enjoyment or a sense of value and meaning in the task. It is possible to go out and network evening after evening without feeling joy or meaning in the actual experience of it. An important premise of our research

[2] Although we presume that people are more likely to build ties if they are more motivated to, we do not measure actual tie formation because many ties form passively or involuntarily, often gradually after the initial encounter, and people often fail to form ties despite conscious effort. Counting the number of business cards exchanged (Vissa, 2012) or using sensor badges to track interactions in real-time (Ingram and Morris, 2007) cannot reliably tell apart who is actually motivated to build ties from who gets approached or who is more selective about meeting particular types of people.

program is that understanding how people view networking as a motivational problem requires examining both behavioral and affective experiences of networking.

Lay theories of networking ability

Across various domains, the degree to which people engage in a task is affected in profound ways by people's lay theories about the extent to which various abilities are believed to be fixed and stable (*fixed theory*) or malleable and changeable (*growth theory*) (Dweck, 2006). For example, in the domain of academics, students with fixed theories of intelligence are more likely to feel threatened by schoolwork and disengage from learning because they see effort as a sign of low intelligence rather than growth (Dweck and Leggett, 1988). Likewise, individuals with fixed theories of athletic ability report feeling less motivated to exercise than those who believe that their bodies can change (Kasimatis et al., 1996), and people with fixed theories of negotiation ability give up more quickly and underperform relative to people with growth theories (Kray and Haselhuhn, 2007).

The literature suggests two related reasons why holding a fixed theory reduces engagement in a task. First, people are more likely to view effort as futile insofar as something fixed cannot be changed easily. Second, people with a fixed theory tend to view effort as not only futile but also threatening to their self-image because, in the fixed view, having to work hard (and potentially failing) signifies lack of talent or character flaw rather than lack of motivation—something permanent rather than changeable (Dweck, 2000, 2007). For them, the goal is not to learn and grow, but to look good (e.g. competent, worthy) to others and themselves without trying hard. Rather than embracing the virtues of hard work, people with a fixed theory tend to focus on guarding their sense of competence and self-worth by avoiding challenging situations.

Extending these ideas to networking, we argue that people also subscribe to different lay theories of networking ability, with important consequences for networking above and beyond other individual differences, including actual networking ability and personality traits. People with a fixed theory view networking ability in terms of innate and stable attributes like extraversion, charm, or other traits that are difficult to change or learn quickly. By comparison, people with a growth theory view networking ability as essentially malleable, like a stock of learned skills and tactics that can be honed through effort. These views represent the opposite extremes of a continuous scale, with those in the middle of the scale representing people who regard fixed attributes and effort as equally important.

Based on prior research on lay theories, we begin with the baseline hypothesis that holding a fixed theory of networking ability inhibits both attendance in networking events and affective experiences of attending networking events. We elaborate why holding a fixed theory inhibits networking in the next section.

Hypothesis 1. *Holding a fixed theory of networking ability inhibits attendance in networking events and affective experiences of attending networking events.*

Attitudes toward networking

Why does holding a fixed theory inhibit networking? We claim that people with a fixed theory are more likely to hold negative attitudes toward networking, because they view networking as threatening to their self-image. By attitudes (Fishbein and Ajzen, 1975), we refer to people's evaluative (positive or negative) sentiments toward the idea of networking. First, people with a fixed theory of networking ability are more likely to question the *utility* or instrumentality of networking (i.e., hold negative instrumental attitudes toward networking): Is networking worth my time and effort? Will it ever pay off? Utility concerns the marginal returns from networking, ranging from utility (networking is effective and rewarding) to futility (networking is a waste of time) or disutility (nothing comes out of networking except rejection).[3] According to Dweck (2000), people with a fixed theory tend to focus on performance and outcomes (e.g. grades) that affirm their competence rather than growth and learning from occasional challenges and mistakes. To the extent that networking often yields no immediate or tangible benefits, very little to show for but pangs of rejection and failure (Brands and Fernandez-Mateo, 2017; Rubineau et al., 2019), people with a fixed theory of networking ability are more likely to feel that networking is useless or ineffective. For them, engaging in small talk after small talk that leads to nowhere or coming home empty-handed is tantamount to failure, because how well or poorly one networks reflects directly on their innate (in)ability to network. They thus see networking as a source of threat to their sense of competence and social worth, like students resenting exams (Dweck, 2007) or job applicants dreading interviews (Brands and Fernandez-Mateo, 2017). In comparison, people with a growth theory are less likely to question the utility of networking because every experience is an opportunity to learn and grow even if it yields no tangible results.

Hypothesis 2a. *Attitudes toward the utility of networking ("instrumental attitudes toward networking") mediate the effects of lay theories on attendance in networking events and affective experience of attending networking events.*

People with a fixed theory of networking ability are more likely to question the *morality* of networking (i.e., hold negative moral attitudes toward networking) as well. We define morality broadly to refer to people's sense of right versus wrong, including fairness, propriety, and social acceptability. In the fixed view, networking feels not only unfair because it favors certain traits or attributes rather than effort, but also unconscionable insofar as it connotes benefiting from others' favoritism. Networking ability, in this sense, is not unlike beauty or race that confers systemic advantage to some and not others—a disconcerting idea, even to those who happen to be in a privileged group. To others who lack such qualities, networking well means having to act in ways that may feel inauthentic and inconsistent with their self-perceptions of who they really are, e.g. acting more extroverted or interested, for instance, than one really cares to be. In comparison, people with a growth theory are less likely to question the morality of networking because networking well is fundamentally a matter of effort rather than having unfair advantage or being inauthentic.

Hypothesis 2b. *Attitudes toward the morality of networking ("moral attitudes toward networking") mediate the effects of lay theories on attendance in networking events and affective experience of attending networking events.*

We thus posit attitudes toward the utility and morality of networking as two possible mediators through which fixed theories of networking ability inhibit networking. These attitudes are likely to be correlated insofar as they stem from the same lay theory. Yet, they are conceptually distinct, and each can independently undermine motivation to network. That is, people disengage from networking, either because they are not good at it, because they do not *feel* good about it—because networking feels fake, unfair, and morally questionable—or both. For instance, some people dismiss the very idea of networking as morally questionable even while acknowledging the importance of being well-connected (Casciaro et al., 2014). Others concede that networking is part of any business, neither fair nor unfair, yet still loathe the time-commitment, self-promotion, and rejections that networking often entails (Molinsky, 2012). Altogether, concerns about the utility and morality of networking pose a double-bind that may confound even

[3] The utility of networking is distinct from the utility of networks. A person may believe that having an effective network is useful, yet still feel that trying proactively to build one is ineffective, just as many people desire to be physically fit yet still resent the idea of exercising.

people with enough skills, resources, and reasons to network.

Lay theory X networking ability

In comparison to the hypotheses above, Kuwabara et al. (2018) note reasons to expect that holding a fixed theory might interact with actual ability and *promote* rather than inhibit networking for some people. The logic is that, among people with high networking ability, holding a fixed theory may in fact reinforce their confidence in their innate talent and promote greater engagement (Tabernero and Wood, 1999). Conversely, believing in effort might be particularly crucial for people who lack raw talent (Dweck, 2000). By this token:

Hypothesis 3. *The negative effect of holding a fixed theory on attendance in networking events and affective experiences of attending networking events will be smaller for people with higher networking ability.*

Contrary to this hypothesis, however, research that has examined whether lay theories interact with ability in other domains has found no strong support for such effects (Elliott and Dweck, 1988; Tabernero and Wood, 1999). One reason is that people with high ability can still be quite risk-avoidant, refraining from challenging situations that may threaten their heightened sense of competence and self-worth, if they hold a fixed theory (Dweck, 1996; Elliott and Dweck, 1988). The implication is that lay theories have only independent effects regardless of people's actual ability. Whether this is the case for networking as well is an important test of Kuwabara's et al. (2018) original model.

Overview of the studies

Because lay theories are domain-specific (Dweck, 2000), testing our hypotheses requires developing new methods to measure and manipulate lay theories of networking ability. Following recommended practices for scale development (DeVellis, 2016; Hinkin, 1995), we first constructed the Lay Theory of Networking Ability (LANA) scale. The four items (Table 1) were reviewed for content validity by five scholars with expertise in social networks or lay theories and pretested on online populations to establish convergent and discriminant validity (see Prestudy 1 in the Supplemental File).

Below, we first report from two studies using LANA to test our hypotheses. In the last two studies, we introduce an experimental manipulation to induce fixed versus growth theories. In all, we present four studies to show that lay theories, whether measured (Studies 1–2) or manipulated (Studies 3–4), predict both attendance in networking events (Studies 2–3) and affective experiences of attending networking events (Studies 1 and 4).

Study 1: scale validation and initial tests

The Supplemental File describes prestudies designed to construct and validate the LANA scale (Prestudy 1) and provide an initial test of Hypotheses 1–3 (Prestudy 2) using online populations from Amazon Mechanical Turk. We conducted Study 1 to re-evaluate the psychometric properties of the scale using a more restrictive sample of full-time working professionals with a business degree.

Methods

We used a survey company to recruit 215 full-time professionals from North America with a business degree to complete a ten-minute survey that measured their lay theories using LANA. Following the survey company's policy, participants who failed attention checks were screened out from completing the survey. Removing duplicate responses resulted in a final sample of $N = 195$. To evaluate the convergent and discriminant validity of LANA, the survey included two scales measuring traits that have been shown to correlate with networking (Fang et al., 2015), the Ten Item Personality Inventory of the Big 5 personality traits (TIPI; Gosling et al., 2003) and self-monitoring (Lennox and Wolfe, 1984). In addition, we included the lay theories of personality scale (Dweck et al., 1995), which measures beliefs about the malleability of personality traits and is expected to be correlated with but distinct from our scale, which concerns beliefs about the relative importance of stable traits versus effort.

To evaluate Hypothesis 1, the survey included four items on affective experiences of "attending networking events to meet new [professional contacts]" (*enjoyable/exciting/ valuable/meaningful*; 1 = strongly disagree, 7 = strongly agree; $\alpha = .89$), based on Deci et al.ös (1994) conceptualization of intrinsic motivation and perceived usefulness of a task as key affective components of self-motivation. Although enjoyment and perceived value are conceptually distinct constructs, we created a single index since our four items converged on a single dimension in factor analysis.

To evaluate Hypothesis 2, the survey included items on negative attitudes toward the morality of networking (*Networking is unfair/inauthentic/dirty*, $\alpha = .84$, based on Casciaro et al., 2014) and the utility of networking (*Networking is useless/unrewarding/a waste of time*, $\alpha = .93$, based on the reward dimension of Burgoon's [1976] unwillingness-to-communicate construct), measured on 7-point scales (1 = strongly disagree, 7 = strongly agree). To evaluate Hypothesis 3, the survey included two items (1 = strongly disagree, 7 = strongly agree; $\alpha = .94$) from the subscale on "Networking Ability" (e.g., *I am good at building relationships with influential people at work*) in the Political Skills Inventory (Ferris et al., 2005).

Following Podsakoff et al. (2003), we took several measures to reduce concerns about common method variance. First, we interspersed demographic questions (age, gender, race, and full-time work experience in years) and screeners, creating separation between measures. Second, we juxtaposed measures that used different response formats. Finally, our results are consistent with the pretest (see Prestudy 2 in the Supplemental File) in which we separated the independent and dependent variables into separate surveys, administered one week apart.

Results

Item analyses and scale dimentionality

As Table 1 shows, each item shows high item-to-total correlations, all above .6 (Nunnally and Bernstein, 1994). The overall reliability was

Table 1
LANA: Lay Theory of Networking Ability Scale (Study 1).

Items	Factor loadings	Item-total r
People are either naturally gifted at networking, or they are not, and it's generally difficult to change that.	.88	.76
How well you network is mostly a matter of personality, and you can't change it very much.	.78	.62
Good networkers are born that way.	.86	.74
People are born with a certain amount of social intelligence, and you can't really do much to change it.	.84	.71
Eigenvalue	2.82	
Proportion of variance explained	.71	
Cronbach's alpha		.86

1 = strongly disagree, 6 = strongly agree. Higher scores indicate fixed theories.

sufficient, α = .86. An exploratory factor analysis using the principal-component method revealed a unidimensional composition (all loadings > .77) explaining 71 % of the total variance (eigenvalue = 2.82). A confirmatory factor analysis revealed that the one-factor solution shows good fit, RMSEA = .00, SRMR = .006, CFI = 1.00, chi-square (2) = .69 (p = .71).

Convergent and divergent validity

The Pearson correlations for LANA (Table S6 in the Supplemental File) are largely as expected, providing convergent validity. As expected, it is positively correlated with lay theories of personality, while it is negatively correlated with extraversion and self-monitoring, which past research has shown to predict networking (Forret and Dougherty, 2001; Sasovova et al., 2010; Kleinbaum et al., 2015). At the same time, the correlations are relatively weak, r's < .31. An exploratory factor analysis with varimax rotation identified LANA as distinct from the other constructs (Table S7 in the Supplemental File), and a Fornell and Larcker (1981) analysis confirmed its divergent and convergent validity (AVE = .61). Based on these results, we conclude that LANA has acceptable convergent and discriminant validity.

Criterion validity

To test Hypotheses 1, we regressed affective experiences on LANA. Supporting Hypothesis 1, LANA revealed a negative effect, $b = -.30$, SE = .09, p = .001, which persisted when we controlled for demographics, traits, and networking ability (Table 2: Model 1). To test Hypothesis 2, we submitted the indirect effects of LANA on affective experiences through attitudes toward the morality and utility of networking, controlling for demographics, traits, and networking ability (Table 2: Models 2–4) to the Preacher and Hayes (2008) bootstrap procedure with 5000 iterations. We found significant mediation by both negative moral attitudes, ab = −.04, 95 % bias-corrected CI [-.10, -.002], and instrumental attitudes, ab = −.05, 95 % bias-corrected CI [−.11, −.02].[4] Contrary to Hypothesis 3, we found no interaction effect of LANA and networking ability on affective experiences.

Discussion

Together with the prestudies, Study 1 establishes lay theories of networking ability as a new construct with strong convergent and discriminant validity. In addition, Study 1 provides preliminary support for Hypotheses 1 and 2, suggesting that holding a fixed theory invokes more negative moral and instrumental attitudes toward networking, reducing affective experiences of networking. Contrary to Hypothesis 3, LANA did not interact with networking ability. To extend these preliminary findings, we designed Study 2 to evaluate the external validity of LANA in a field setting.

Study 2: attending networking events (a survey)

In Study 2, we examined whether LANA predicts attendance in networking events as well as attitudes toward networking among full-time MBAs over a six-week period. We also used a different measure of networking ability to re-evaluate Hypothesis 3.

Participants and procedure

Participants were 131 first-year students enrolled in a full-time MBA program. During the first week of a six-week course, students completed a short survey, which included the LANA scale (α = .81) and items on negative attitudes toward the morality (α = .77) and the utility (α = .81) of networking as well as questions about demographics (age, gender, nationality), NEO Personality Inventory of the Big 5 traits, and self-assessments of networking ability (percentile relative to classmates).

Six weeks later, students completed another survey in which they indicated all networking events they attended on campus over the six-week period, which comprised our dependent variable. It is possible that some students are busy attending social events hosted by clubs and organizations to which they belong (e.g. weekly social night for the Golf Club) rather than attending other events to meet new people. To consider this possibility, we also collected the number of student clubs or campus organizations they were active members of over the six-week period. Summary statistics are in Table S8 in the Supplemental File.

Table 2
Effects of Lay Theories (Study 1).

	Model 1 Affect. Exp.	Model 2 Morality	Model 3 Utility	Model 4 Affect. Exp.
LANA (fixed theory)	−.14*	−.25*	−.26**	−.04
	(.07)	(.10)	(.08)	(.06)
Networking ability	.01**	.01	−.00	.01*
	(.00)	(.00)	(.00)	(.00)
Self-monitoring	.65**	.46**	.55**	.45**
	(.12)	(.17)	(.13)	(.11)
Extravert	.20**	.17**	.10*	.15**
	(.04)	(.06)	(.05)	(.04)
Agreeable	.15*	.11	.15*	.10
	(.06)	(.09)	(.07)	(.05)
Conscientious	−.10	−.02	.11	−.12*
	(.06)	(.09)	(.07)	(.06)
Stable	−.05	−.05	−.06	−.03
	(.05)	(.08)	(.06)	(.05)
Open	.08	.01	.06	.06
	(.06)	(.08)	(.06)	(.05)
Moral attitudes				.18**
				(.06)
Instrumental attitudes				.21**
				(.07)
Constant	.92	1.22	2.43**	.19
	(.68)	(.98)	(.77)	(.63)
R^2	.56	.30	.38	.65

*p < .05, **p < .01. N = 195. Estimates from OLS regression. Standard errors are in parentheses. Models 2–4 were submitted to the Preacher-Hayes bootstrap procedure specifying indirect paths from LANA to attitudes toward the morality (Model 2) and utility (Model 3) of networking to affective experiences (Model 4). All models control for age, gender, race (white or not), and work experience in years.

Results

Table 3 shows the effects of LANA (fixed theory) on the number of events attended, treated as a count measure with overdispersion in negative binomial regression. Model 1 controls for demographics and personality traits. Models 2 and 3 add self-assessed networking ability and its interaction with LANA. Model 4 controls for club membership, which exploratory analysis revealed to be significantly correlated with the dependent variable (r = .32). Consistent with Hypothesis 1, we found a significant negative effect of LANA in all four models. Contrary to Hypothesis 3, LANA x networking ability was not significant, although we found a significant positive effect of networking ability in Models 2–4.

To test Hypothesis 2 (mediation by negative attitudes), we submitted our data, with the same set of covariables as Model 4, to the Preacher and Hayes (2008) bootstrap procedure with 5000 iterations. We found a significant indirect effect of lay theories on event attendance through instrumental attitudes, ab = .09, 95 % bias-corrected CI [−.28, −.004], but not moral attitudes, ab = .03, 95 % bias-corrected CI [−.08, .11].

[4] Because the moral and instrumental attitudes are highly correlated (r = .65), we ran separate mediation tests as robustness checks and confirmed that each attitude mediates the effect of lay theories.

Table 3
Predicting Networking Events Attendance (Study 2).

	Model 1	Model 2	Model 3	Model 4
LANA (fixed theory)	−.28*	−.24*	−.38**	−.38**
	(.12)	(.11)	(.14)	(.14)
Networking ability		.02**	.03**	.03**
		(.01)	(.01)	(.01)
LANA x Networking ability			.01	.01
			(.01)	(.00)
Female	−.42	−.27	−.28	−.43
	(.30)	(.28)	(.28)	(.27)
Age	−.18	−.14	−.13	−.20
	(.13)	(.12)	(.12)	(.12)
Extraversion	−.00	−.01	−.01	−.02
	(.01)	(.01)	(.01)	(.01)
Agreeableness	−.01	−.01	−.01	−.01
	(.01)	(.01)	(.01)	(.01)
Conscientiousness	−.01	−.02	−.02*	−.02*
	(.01)	(.01)	(.01)	(.01)
Neuroticism	.04**	.05**	.05**	.06**
	(.01)	(.01)	(.01)	(.01)
Openness	.02	.03	.03*	.03*
	(.01)	(.01)	(.01)	(.01)
No. of club memberships				.11**
				(.04)
Constant	2.56	1.32	1.03	1.63
	(3.46)	(3.18)	(3.10)	(3.07)
Pearson chi square	58.72	69.27	71.30	80.70
Log likelihood	−163.93	−158.65	−157.63	−152.93

*$p < .05$, **$p < .01$. $N = 131$. The dependent variable is the number of networking events attended submitted to negative binomial regression. All models control for nationality.

Discussion

Study 2 provides compelling support for the external validity of LANA by demonstrating that the scale predicts attendance in networking events among MBAs over time, supporting Hypothesis 1. It is notable that this effect of lay theories emerged independently of networking ability, suggesting that what one believes about networking matters above and beyond how well one networks.

Study 2 provides partial support for Hypothesis 2, namely, mediation by instrumental attitudes but not moral attitudes. Further analysis revealed that the effect of LANA on moral attitudes was highly significant, $b = -.35$, $SE = .13$, $p = .007$, but the effect of moral attitudes on event attendance was not, b = .27, $SE = .12$, $p = .86$. This pattern supports our theoretical argument that lay theories predict negative attitudes toward networking, although such attitudes may not always predict networking behavior for a variety of reasons that cannot be accounted for in our study. We must also interpret the effects of LANA on attitudes with caution, since lay theories were not experimentally manipulated, and attitudes were measured together with LANA in survey 1. We designed the next study to address these issues.

Study 3: attending networking events (an experiment)

In Study 3, we used random assignment to test whether manipulating lay theories of networking ability affects attitudes toward networking and attendance in networking events over time. One common paradigm for manipulating lay theories is to provide a fictitious scientific article supporting a fixed or growth theory (Chiu et al., 1997; Kray and Haselhuhn, 2007; Pollack et al., 2012). Using this paradigm, we developed a short article about networking titled "What Good are People Skills?" (see the Appendix). In the growth condition, the text described networking as a set of learnable skills and presented research findings supporting a growth theory of networking ability. The text in the fixed condition described networking as a matter of inborn traits that cannot be easily changed. Apart from such differences, the essays were identical, and neither version explicitly discredited or devalued the idea of networking. We pretested this intervention and successfully manipulated people's attitudes toward networking and affective experiences in networking events (see Prestudy 3 in the Supplemental File).

Methods

Participants were 137 full-time MBAs (74 % male, 63 % White) from two sections of a core first-year course at a business school. In the first week of the course, they were randomly assigned to read either the fixed or growth version of the intervention text and spend several minutes to reflect on the key ideas (*How do the ideas from the article describe how you approach networking? How can you put them into practice?*). Next, they completed a survey that measured self-monitoring and the Big 5 personality traits on 7-point scales and networking skills in percentile relative to classmates.

Four weeks later, they completed another survey, which contained the items from Study 1 on negative attitudes toward the morality ($\alpha = .81$) and utility ($\alpha = .90$) of networking and a list of networking events at the business school, obtained from the student affairs office. Although we did not explicitly define what a networking event is, the list was restricted to events that were deemed professional in nature by the student affairs office, such as those featuring guest speakers or recruiters, and excluded purely social events, such as club parties. Students were asked to mark any that they attended in the last 4 weeks. Following Study 2, they listed all clubs on campus in which they were active members during the last 4 weeks. As an additional control, they indicated whether they had a summer internship or job lined up. Forty-six students failed to complete both surveys, leaving a sample of 91 (66 % retention). Participants were balanced across the conditions in gender, race, job search status, and club membership, all p's > .35

Results

The treatment had significant effects on attitudes. Four weeks later, students reported more positive attitudes toward the utility of networking in the growth condition ($M = 5.35$, $SD = 1.59$) than in the fixed condition ($M = 4.60$, $SD = 1.38$), $t(89) = 2.38$, $p = .02$, $d = .50$. Students also reported more positive attitudes toward the morality of networking in the growth condition ($M = 5.55$, $SD = 1.20$) than in the fixed condition ($M = 4.87$, $SD = 1.49$), $t(89) = 2.37$, $p = .02$, $d = .50$.

To examine the number of events attended, which was overdispersed, we conducted negative binomial regression. The direct effect of the treatment was not significant, $b = -.20$, $SE = .27$, $p = .45$ (Table 4: Model 1). However, exploratory analyses revealed that one variable, club membership, was highly correlated with event attendance ($r = .66$), suggesting that many students attended club-sponsored events. This creates a possible confound insofar as the dependent variable may reflect club membership rather than the treatment effect. To examine the extent to which students networked on their own apart from their club activities, we controlled for club membership, which revealed a significant effect of the treatment, $b = -.39$, $SE = .20$, $p = .048$ (Table 4: Model 2). This effect remained significant when we controlled for demographics and personality traits as well as networking ability and job search status (Table 4: Model 3). We view these results as providing qualified support for Hypothesis 1. We found no support for *fixed theory* x *networking ability* (Hypothesis 3) in any of the models.

Finally, we tested for mediation through attitudes (Hypotheses 2). Using the Preacher and Hayes (2008) bootstrap procedure with 5000 iterations, we found a significant indirect effect of the treatment on event attendance through both moral attitudes, $ab = -.13$, 95 % bias-corrected CI [−.34, −.02], and instrumental attitudes, $ab = -.10$, 95 % bias-corrected CI [−.34, −.01].

Table 4
Predicting Networking Events Attendance (Study 3).

	Model 1	Model 2	Model 3
LANA (fixed theory)	−.20	−.39*	−.45*
	(.27)	(.20)	(.21)
Club membership		.38**	.39**
		(.05)	(.04)
Male			.16
			(.24)
White			−.47*
			(.19)
TIPI: Extraversion			.07
			(.07)
TIPI: Agreeableness			.13
			(.08)
TIPI: Conscientiousness			.10
			(.07)
TIPI: Neuroticism			.05
			(.07)
TIPI: Openness			−.12
			(.08)
Self-monitoring			−.07
			(.17)
Networking skill			−.00
			(.01)
Has summer internship			.08
			(.20)
Constant	1.39**	−.09	−.85
	(.20)	(.22)	(1.11)
Chi square	.57	61.81	73.44
Pseudo-R^2	.00	.14	.17
Log likelihood	−217.82	−187.20	−181.38

The dependent variable is the number of networking events attended submitted to negative binomial regression. *$p < .05$, **$p < .01$. $N = 91$. Standard errors are in parentheses.

Discussion

Following a prestudy demonstrating that lay theories can be manipulated, Study 3 shows that lay theories have causal effects on attendance in networking events (Hypothesis 1) as well as moral and instrumental attitudes toward networking as mediators (Hypothesis 2). The effects on attendance emerged once club membership was controlled for, suggesting—not surprisingly—that how much people engage in networking depends on other factors besides lay theories. At the same time, these effects were remarkably durable, persisting over a period of four weeks. Once again, Hypothesis 3 was not supported.

Study 4: affective experiences at networking events

Studies 2 and 3 demonstrated that lay theories, whether measured or manipulated, predicts attendance in networking events. But do lay theories also affect how people experience networking events? Although Study 1 found initial evidence that people with growth theories are more likely to report positive affective experiences in networking events, the survey design of the study raises concerns about recall bias and external validity. To this end, we designed our final study to examine whether manipulating lay theories affects people's affective experiences in networking events by conducting field experiments at actual networking events, two hosted by a business school for its executive MBA program and one for female executives of a large insurance company. We did not measure attitudes toward networking or networking ability, which the event hosts felt were too invasive.

Networking events for executive students

We worked with the career management office at a business school to design and conduct a field experiment at two networking events. Both were conventional events for all intents and purposes, advertised as career-networking nights for executive students, full-time MBAs, and roughly 30 panel speakers and representatives from various executive search firms and other industries. Each event was capped at 90 people, and attendees were required to pre-register.

Two days prior to each event, the career management office sent out an email to registrants with final details about the event, along with a request to complete a short survey in exchange for an advance copy of a new article on networking to "help you get into the right mindset" before the event. The survey presented either the growth or the fixed version of the article from Study 3, which served as our experimental manipulation. After reading the text, participants completed the LANA scale ($\alpha = .76$) as a manipulation check.[5]

Each evening was held from 6 pm to 9 pm in an auditorium on campus. An hour-long panel by executive recruiters from various industries was followed by a two-hour networking reception in an adjacent lounge. Representatives from various companies and executive search firms were stationed at several cocktail tables arranged along two sides of the lounge.

One day after the event, the career management sent an email with a link to the post-event survey; a reminder was sent two days later. The post-event survey included the three items from Study 1 on affective experiences of attending the networking events to meet new people (*was enjoyable/valuable/meaningful*, $\alpha = .88$), one item on how many people they met that they will "consider contacting for a follow up meeting," and an attention check asking what the content of the manipulation article was. After completing the survey, participants received a written debriefing statement.

Across both events, 135 people completed the first survey.[6] Altogether, 49 attendees (16 MBAs, 26 executive MBAs, 7 alumni; 39 men; 51 % white) completed both pre- and post-event surveys (36 % retention).

Networking event for female executives

The sample size and the response rate from the on-campus events raise concerns about selection biases. In addition, including the LANA scale in the pre-event survey may have created demand effects. We thus collected additional data using a modified design.

A large insurance company hosted a full day of workshops and networking for its female managers. An email invitation was sent to all 197 female managers at its headquarters. Of 98 who registered, 65 actually attended the event. After attending a series of talks together in the morning and workshops in the afternoon, and before the cocktail hour to conclude the day, participants were given 10 min to read and complete a survey packet with the TIPI personality scale (Gosling et al., 2003) and a copy of either the growth or fixed version of the manipulation text, along with instructions to write down ideas and thoughts from the text that are particularly relevant or useful to their own experiences in networking. All attendees completed the first survey onsite, reducing selection bias.

As people exited the cocktail party, they were asked by the event organizers to fill out a second survey that contained one question about the number of years they have been at the company, three items on affective experiences of attending the networking event (was *enjoyable/valuable/meaningful*; $\alpha = .92$), and one question regarding the number of people they met that they would like to contact for a follow-up

[5] In addition, we added a question about how important they thought networking was to their career success; this question was added to ensure that the manipulation text did not create demand effects or prime people to view networking as more or less important. We found no effect of experimental treatment on this item, $t(47) = 1.16$, $p = .25$.

[6] We do not have an accurate attendance record due to event logistics. Assuming full attendance by all who registered (n = 240), this yields a retention rate of 56%.

meeting. Overall, 45 people (69 % response rate) completed both surveys.

Results

Across different events, priming fixed versus growth theories had marked effects on people's affective experiences; submitting the combined sample ($N = 96$) to regression with fixed effects for the events found a significant negative effect of the fixed (versus growth) theory manipulation, $b = -.57$, $SE = .20$, $p = .005$. People in the fixed theory condition also reported meeting fewer people, $b = -1.10$, $SE = .41$, $p = .008$.

Robustness tests

Examining the events separately allows us to account for methodological differences and additional covariates. In the on-campus events, the manipulation was successful. After reading the manipulation text, people reported stronger fixed theories of networking ability in the fixed theory condition ($M = 3.45$, $SD = .59$) than in the growth theory condition ($M = 2.95$, $SD = .79$), $t(47) = 2.51$, $p = .016$, $d = .75$. In the post-event survey, 90 % of the participants accurately recalled the key idea from the manipulation article, with no difference between the conditions.

In turn, after attending a networking event, people reported significantly less positive experience in the fixed theory condition ($M = 4.68$, $SD = 1.27$) than in the growth theory condition (M = 5.45, SD = 1.00), $t(47) = 2.37$, $p = .02$, $d = .68$. People also met fewer people in the fixed theory condition ($M = 1.88$, $SD = .74$) than in the growth theory condition ($M = 2.28$, $SD = .61$), $t(47) = 2.09$, $p = .04$, $d = .60$. These effects persisted when we excluded those who failed to recall the manipulation article accurately and when we controlled for gender, race, 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).

The results from the event for female executives were similar. Attendees reported less positive experiences in the fixed condition ($M = 5.97$, $SD = .82$) than in the growth condition ($M = 6.42$, $SD = .54$), $t(43) = 2.19$, $p = .03$, $d = .65$. Attendees also met marginally fewer people in the fixed condition ($M = 2.43$, $SD = 1.41$) than in the growth condition ($M = 3.18$, $SD = 1.30$), $t(43) = 1.85$, $p = .07$, $d = .55$. In regression controlling for personality traits and tenure, the treatment effects persisted, both for affective experiences, $b = -.51$, $SE = .20$, $p = .02$, and for the number of people they want to follow up with, $b = -1.29$, $SE = .59$, $p = .03$.

Discussion

Our final study demonstrates that manipulating lay theories affects people's affective experiences of attending networking events. People primed with a growth theory experienced networking events as more enjoyable, valuable, and meaningful. They also reported meeting more people to follow up with.

General discussion

Taken together, our studies demonstrate how lay theories invoke negative attitudes that inhibit networking, providing the first empirical support for Kuwabara's et al. (2018) model. First, people with fixed theories were more disengaged from networking events, both behaviorally and affectively (Hypothesis 1). This pattern held across studies with different samples, whether lay theories were measured or induced, and whether networking was recalled (Study 1), tracked over time (Studies 2–3) or experienced in live events (Study 4). Second, in Studies 1–3, lay theories also explained people's attitudes toward the utility and morality of networking above and beyond other relevant individual differences, including the Big 5 personality traits, self-monitoring, and networking ability and, with one exception on Study 2, these attitudes mediated the effects of lay theories on networking (Hypothesis 2). Specifically, people who believe that networking ability is fixed were more likely to report that networking feels useless and unrewarding or unfair and insincere.

In comparison to the main and mediated effects of lay theories, we found no support for the idea that lay theories interacts with networking ability (Hypothesis 3). This may be an issue with our measures of networking ability, which were self-reported because we are not aware of reliable objective measures. At the same time, research in other domains has also found null interaction between lay theories and ability (Dweck, 1996; Tabernero and Wood, 1999). One explanation is that holding a fixed theory can make people with high ability rejection-sensitive and avoid challenging situations that may threaten their heightened sense of self-worth (Dweck, 1996; Elliott and Dweck, 1988). Although we did not measure rejection-sensitivity, this may well be the case in networking. Given pervasive competition for status and inclusion, even people with high status or scarce resources are at risk of rejection from discerning gatekeepers or jealous peers as they seek acceptance of exclusive and discriminating circles (Brands and Fernandez-Mateo, 2017, Gould,2002).

Finally, it is worth noting that we found no consistent differences in lay theories by gender, race, or age across our studies. Without diminishing the relevance of lay theories for individual men or women, this pattern suggests that the structural disadvantages that women and minority members often face inside and outside of organizations (Brands and Mehra, 2019; Ibarra, 1993) may be based more directly on external constraints (including systemic biases or ingroup favoritism) than internal constraints (i.e. lay theories) that inhibit their access to network resources.

Implications for theory and research

The recognition that structuralist views of networks tend to underplay the role of human psychology in network dynamics has inspired a flurry of efforts to integrate various psychological factors into theories of networks (Casciaro et al., 2015). Yet, much of this effort has focused on people's general traits and predispositions, perceptions of network structures, or behavioral patterns and styles while overlooking people's beliefs and attitudes about the idea of networking. This is a significant omission that limits our understanding of what people actually think or feel about networking, and why many people detest the idea of it. Our approach breaks theoretical and methodological grounds by focusing squarely on the role that domain-specific beliefs play in shaping people's motivation to network.

Specifically, by tracing people's attitudes toward networking to their beliefs about the nature of networking ability, the present research helps extend recent work on how people feel about networking. In a series of experiments and surveys, Casciaro et al. (2014) show that the idea of professional networking, but not personal networking, induces feelings of dirtiness or moral contamination. Wanberg et al. (2000) show that networking discomfort—feeling uncomfortable about approaching others for favors—reduces networking efforts among job seekers. In a study of two professional service firms, Bensaou et al. (2013) identified three profiles of people with distinct attitudes toward networking. Of the 52 people in their sample, 24 were "selective players" who recognize the importance of effective networks but question whether their own efforts at networking are particularly effective, while 10 were "purists" who consider networking morally dubious. However, the remaining third of the sample consisted of "devoted players" – purposive and proactive networkers who made sustained efforts to build larger and broader networks. Finally, in a qualitative study of 50 foreign students in an American business school, Molinsky (2012) identifies two distinct attitudes students hold about adjusting to a new professional culture, one with a strong emphasis on networking: feeling awkward about using new skills or repertoire, such

as self-promotion, and feeling illegitimate about engaging in behaviors inconsistent with one's native cultural values. Altogether, these studies show that negative attitudes toward networking are indeed prevalent, although hardly universal, raising questions about who feels conflicted or ambivalent toward networking, and why.

Our research suggests that such attitudes can be traced to lay theories of networking ability. Research on lay theories has focused almost exclusively on the perceived utility of effort on instrumental outcomes (e.g. whether studying for an exam is worth the effort). In many cases, however, people disengage, not (only) because they question whether they will perform better if they tried harder, but because they question how trying harder will reflect on them. For instance, students of minority races may disengage from studying because getting good grades is viewed as "acting white" by peers (Fordham and Ogbu, 1986). Similarly, in corporate settings, women are often caught in a double-bind, as succeeding often requires engaging behaviors that are widely seen as unfeminine (Heilman, 2001). Thus, feeling authentic and sincere is an important issue in various other domains, not just networking. By explicitly incorporating both moral and instrumental attitudes, our theory helps expand the analytical scope of lay theory beyond issues of competency and achievement to address concerns about identity and morality.

In all, our research contributes to a richer understanding of human agency in networks. The problem of agency—understanding the extent to which networks are shaped by willful individual action—has long preoccupied social theorists (Borgatti and Foster, 2003, Emirbayer and Goodwin,1994; Sewell, 1992; Tasselli et al., 2015). By and large, however, empirical research on networks has treated agency as either a byproduct of rational expectations or a correlate of static traits and skills (Burt, 2012). Such views portray networkers as reactive opportunists or passive vessels of individual traits and tendencies rather than proactive and creative agents seeking to assert themselves in their social environment. We depart from such perspectives by conceptualizing lay theories as a variable component of agency that can be measured or manipulated, thus underscoring the varying extent to which people believe in their own capacity to act and change through effort: some people are more agentic and proactive about networking while others are more passive and reactive to the constraints of the ties that surround them, depending on their lay theories. In doing so, we highlight the crucial idea—well recognized in psychology but rarely examined in the networks literature—that laypeople, not just academics, hold different "theories" that guide their social action, with implications for who builds effective networks.

Implications for practice

A particularly attractive feature of lay theories is that they are relatively simple beliefs that can be measured and diagnosed using a four-item scale and learned or taught "on the spot" using a simple intervention. A short article, distributed a day or two in advance of networking events, was enough to induce different lay theories toward networking and promote more positive affective experiences. These results have two important implications for managerial practice.

First, the possibility that lay theories of networking ability can be changed is a key result given how impractical or intrusive it can be to change people's core traits or skills. Some people reject the notion that they can change their personality traits at will even if they want to, while others feel defensive about the idea that they should change who they are (Cain, 2013; Hudson and Fraley, 2015). Still others sense inauthenticity and deceitfulness in the idea of having to learn social skills in order to build relationships (Ibarra, 2015, Molinsky,2012). In contrast, people may be much more receptive to the idea that they can rethink their hidden assumptions about networking, in part because growth theories—the idea that effort matters—resonate readily with many people's personal ideologies (Dweck, 2000).

Second, our results show that lay theories have consequences for attending networking events as well as affective experiences of attending networking events. People with growth theories reported attending networking events as more enjoyable, meaningful, and valuable. This is an important result if an important goal for many people is to not only understand how to network more effectively but also enjoy networking. For anyone wary of the idea of schmoozing and scheming in networking or the "iron cage" of fixed traits and abilities (Ford et al., 2008), focusing instead on lay theories may help people approach networking in more positive terms of growing and learning rather than deceiving oneself or exploiting others.

It is unclear how persistent the effects of lay theory interventions are. Studies have documented rather durable and scalable effects (Paunesku et al., 2015). Our results show effects lasting a few weeks. Still, for sustained results, organizations may need to consider ways to reinforce lay theories, not only through training programs, but also through organizational design and culture because, as Murphy and Dweck (2010) show, employees may systematically adjust their lay theories to fit the dominant lay theories in the organizational culture.

Limitations and future directions

Limitations of the present research raise questions for future research. First, do lay theories generalize beyond networking events? To validate lay theories of networking ability as a new construct, we focused on networking events as a useful test of motivation to network. Nevertheless, more work is needed to look beyond immediate effects of lay theories in one-time events to understand downstream consequences for people's actual networks or professional and personal outcomes. Do lay theories actually predict—above and beyond personality traits or networking ability—who builds effective networks or benefits from networking in the long run?

Second, more work is needed to examine attitudes toward the utility and morality of networking as separate constructs. Although it is not surprising that they are highly correlated, they are assumed to be conceptually orthogonal, raising questions about how they relate to each other. Is one more stable, pervasive, or consequential than the other? Do they interact? When do people feel differently toward the utility versus morality of networking? These are important questions that require studies designed to measure both attitudes simultaneously while minimizing common method bias—perhaps by using more implicit measures.

Third, the present research focused on self-perceptions, that is, how people see their own engagement in networking. Research shows, however, that lay theories have direct impact on how people perceive—and even stereotype—others (Chiu et al., 1997; Levy et al., 1998). In this vein, what implications do lay theories of networking ability have on social perception? Are people with a fixed theory more likely to stereotype networkers—not just themselves—as unfair, inauthentic, and dirty?

Conclusion

Yet more questions remain: where do lay theories come from? How do lay theories differ across different social groups? How do different aspects of organizations, such as hierarchies or culture, affect lay theories? And why do people develop or maintain fixed theories if they are so disadvantageous? Are there benefits to holding a fixed theory? We hope these and other questions—together with our theory, scale, and experimental manipulation—will inspire new research and new perspectives on networking. Given how much of success in business and life depends on "who you know," understanding how to promote networking and help people create social capital is an important agenda for networks research. The present research opens new lines of inquiry by drawing attention to the role of beliefs that shape people's motivation to network.

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Appendix A. Manipulation Text Used in Studies 3 and 4

[Growth Condition] What Good is Learning People Skills? (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 might play a much greater role over the course of one's career. According to Paul Sealand, Professor of Organizational Behavior at the Wharton School of Business, 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 76 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 27 % through practice.

Dr. Thomas Mays 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, 82 % 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."

[Fixed Condition] What Good is Learning People Skills? (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 might play a much larger role in one's career. According to Paul Sealand, Associate Professor of Organizational Behavior at the Wharton School of Business, 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 pattern." In other words, "you will have difficult time building genuine relationships if you simply try to sound like a native—someone you are not."

In a forthcoming publication in the Academy of Management Journal, he reviewed 76 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 6 % despite practice.

Dr. Thomas Mays of Harvard Business School offers another analogy: "Many people misunderstand networking the same way they misunderstand exercising. We can run or hit the gym every day, 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, 82 % of executives failed to improve their overall networking ability over the 1-year period after. In other words, "Just be yourself" may still be the best advice.

Appendix B. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.socnet.2020.01.003.

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