Journal of International Business Studies (2009) 40, 490–508

Guanxi vs networking: Distinctive configurations of affect- and cognition-based trust in the networks of Chinese vs American managers

Roy Y J Chua[1], Michael W Morris[2] and Paul Ingram[2]

[1]*Harvard Business School, Boston, USA;* [2]*Columbia University, Columbia Business School, New York, USA*

Correspondence:
R Y J Chua, Morgan Hall, 312 Harvard Business School, Soldiers Field, Boston, MA 02163, USA.
Tel: +1 617 495 6465;
Fax: +1 617 496 6568;
E-mail: rchua@hbs.edu

Received: 20 March 2007
Revised: 8 July 2007
Accepted: 14 November 2007
Online publication date: 17 July 2008

Abstract
This research investigates hypotheses about differences between Chinese and American managers in the configuration of trusting relationships within their professional networks. Consistent with hypotheses about Chinese familial collectivism, an egocentric network survey found that affect- and cognition-based trust were more intertwined for Chinese than for American managers. In addition, the effect of economic exchange on affect-based trust was more positive for Chinese than for Americans, whereas the effect of friendship was more positive for Americans than for Chinese. Finally, the extent to which a given relationship was highly embedded in ties to third parties increased cognition-based trust for Chinese but not for Americans. Implications for cultural research and international business practices are discussed.
Journal of International Business Studies (2009) **40,** 490–508.
doi:10.1057/palgrave.jibs.8400422

Keywords: *guanxi*; trust; culture; social network

INTRODUCTION

Business everywhere involves trusting relationships. Yet do these relationships develop in the same patterns in different cultures? A prominent theme in Western research on workplace relationships is the Protestant ethic of separating socio-emotional and instrumental concerns (Sanchez-Burks, 2002; Weber, 1904/1930). By contrast, researchers in Chinese culture have emphasized that work relationships combine affective and instrumental ties (Bond & Hwang, 1986; Yang, 1994). Undeniably, Chinese business relationships have a strong socio-emotional component, typically involving personal gifts, shared meals, and introduction to family members (Pearce & Robinson, 2000; Trompenaars, 1994; Yang, 1988; Yang, 1994). This distinctive pattern of trusting relationships in Chinese business has been described by many scholars in terms of the folk concept *guanxi* (King, 1991; Lin, 2001). Some have proposed that the practices referred to by *guanxi* are unique to Chinese culture (e.g., Hung, 2004; Lin, 2001; Vanhonacker, 2004), whereas others have equated them with practices referred to as networking in the West (e.g., Wellman, Chen, & Dong, 2001). The current research takes a middle path of drawing on Western social science concepts

and methods to elucidate the differences between American and Chinese cultures in the configuration of trust in managers' professional networks.

We argue that Chinese business, compared with that in the West, is characterized by trust in family-like relationships, where affective bonds run alongside instrumental exchanges and where reliance on another person depends greatly on his or her embeddedness within one's network. We develop our hypotheses from the notion of Chinese familial collectivism, drawing on the distinction between trust from the heart (affect-based) and from the head (cognition-based) (Lewis & Weigert, 1985; McAllister, 1995). Specifically, we investigate the extent to which these two types of trust are intertwined in business relationships for Chinese vs American managers. We also examine cultural differences in (a) how placing affect-based trust in another person is associated with receiving economic resources and friendship in the relationship, and (b) how cognition-based trust depends on the other's extent of embeddedness in one's network. We focus our analysis on trust, as it is a critical ingredient for effective social exchange and is often invoked in both social network and *guanxi* research. This research approach allows us to illuminate frequently discussed differences in Chinese and American professional networks by elucidating how the social structure of trust differs across these two cultures.

PATTERNS OF TRUSTING RELATIONSHIPS

Affect- and Cognition-based Trust

Research on trust has identified defining features and variable aspects. A defining feature of trust is the willingness to make oneself vulnerable to the other person despite uncertainty regarding motives, intentions, and prospective actions (Kramer, 1999; Mayer, Davis, & Schoorman, 1995). One key distinction between different types of trust is the psychological processes in which it is based (Lewicki & Bunker, 1996; Lewis & Weigert, 1985; McAllister, 1995). Trust can emerge either from an affective experience with the other person (Drolet & Morris, 2000; Lewis & Weigert, 1985; Rempel, Holmes, & Zanna, 1985) or from evidence of the other party's competence and reliability (Butler, 1991; Cook & Wall, 1980; Zucker, 1986).

Interestingly, this distinction between affect- and cognition-based trust is also acknowledged in traditional Chinese discourse about trust (Chen & Chen, 2004). Indeed, in the Chinese equivalent of "trust" – the compound word "*xin-ren*" – the first part, "*xin*," refers to the trustworthiness of a person, with an emphasis on sincerity, whereas the second part, "*ren*," refers to the person's dependability or reliability.

Chinese Familial Collectivism

Many cultural researchers have proposed that Chinese culture is characterized by collectivism, an orientation that prioritizes collectivities over the individual (Brewer & Chen, 2007; Hofstede, 1980; Markus & Kitayama, 1991; Triandis, 2001). Among the various collectivities in society, the family is particularly prioritized in Chinese culture (e.g., Hsu, 1971; Lai, 1995; Lang, 1946; Yang, 1988). The norms that highlight family are rooted in Confucianism and are typically referred to as *familial collectivism*[1] (Bond & Hwang, 1986; Yang, 1988, 1992). Not only are the norms for family relationships highly salient, the family is also taken as a template for relationships in other domains of life, such as professional or business relationships (Redding & Wong, 1986; Yang, 1992, 1998).

What exactly are these norms[2] that characterize Chinese family relationships? Yang (1988) proposed four key defining features of familial collectivism:

(1) mutual dependence;
(2) hierarchical power structure;
(3) dominance of family interaction over other relationships; and
(4) preference for extended family structure.

Let us consider each feature in turn.

The first feature of family relationships is that individuals in a family are mutually dependent on one another for resources and support, ranging from labor to finances. At the same time, the family ties between parent and child, between husband and wife, and between siblings are usually very affectively close, rivaled only by romantic ties and one's best friendships. Hence family ties tend to combine affective closeness with instrumental concerns. Second, relationships in a family are highly differentiated based on hierarchy, each with specific roles and responsibility. For example, even though affect is inherently present in family ties, affective parent – child ties are clearly differentiated from affective sibling ties. Third, interaction with family often dominates over other forms of social interaction. Most Chinese spend a large amount of time interacting with family members over shared meals and regular family gatherings. Family ties are typically given priority over those outside the

family. Fourth, Chinese tend to form extended family networks. Even if they do not live in the same household, Chinese prefer to live near family members and visit each other often, helping out each other in times of need. The extended family network structure allows individuals to tap into resources of other family members in both professional and social life.

Given that the family is often used as a template for relationships in other social domains in Chinese culture, norms of familial collectivism can be particularly useful in understanding Chinese business relationships and networks, often referred to as *guanxi*. Elements of so-called *guanxi* in the Chinese business contexts might mirror features of familial collectivism.

We next draw on the key features of Chinese familial collectivism to develop hypotheses about patterns of trusting relationships in the Chinese business environment. Specifically, our hypotheses concern the configuration of affect- and cognition-based trust in managers' professional networks. In an egocentric network, a focal actor is referred to as "ego" whereas his or her contacts in the network are referred to as "alters." Our focus is the pattern in which ego places trust (of both types) in alters as a function of receiving economic resources and friendship from alters and the extent to which ego – alter relationships are embedded in ties to third parties within the network. We examine how the effects of these network attributes are moderated by national culture. Our hypotheses treat trust as the effect of ties, although we acknowledge that ties could also be affected by trust. We will consider the question of causality in more detail in the discussion.

Intertwining of Affect- and Cognition-based Trust

One key feature of Chinese familial collectivism is that individuals are mutually dependent on each other not only for instrumental resources but also for socio-emotional support. When applied to the business context, this means that, besides competence and track record, it is important that business partners have an affective bond. Few Chinese business relationships develop without concomitant socio-emotional exchanges such as sharing meals, gifts, and socializing with each other's family. Hence trusting business relationships tend to combine both affective and instrumental elements: affect- and cognition-based trust are therefore likely to be highly intertwined in Chinese managers' networks.

Although mixing affective closeness with business also occurs in American culture, there is considerable tension in blending these two kinds of relationship (Zelizer, 2005). A legacy of the Protestant ethic (Weber, 1904/1930) is the notion that emotional concerns in business are unprofessional. Decisions at the office are supposed to be driven by impersonal criteria of efficiency and effectiveness. At the same time, Western norms of friendship involve a notion of true friendship as excluding instrumental benefits (Silver, 1990). Hence a relationship mixing business and affective closeness risks violating Western norms about business and friendship. For instance, in their study of Australian hotel managers, Ingram and Roberts (2000: 418) found that "while they had friends among other hotel managers, these were not their closest friends. The instrumental component probably limits them as vehicles for sentiment." Given that instrumentality and affect in the same relationship creates tension for Americans, they should be less likely to simultaneously develop affect- and cognition-based trust in the same person. Therefore we argue that although affect- and cognition-based trust can co-occur in the relationships of American businesspeople (McAllister, 1995), their co-occurrence should be greater for Chinese businesspeople operating in the normative context of familial collectivism.

Hypothesis 1: Cognition- and affect-based trust should be more highly correlated in the professional networks of Chinese managers than in those of American managers.

Economic-Dependence Ties and Affect-based Trust

Drawing further on the idea that there is tension in mixing affective closeness with instrumental relationships in the US, we argue that American managers will limit affective closeness with those on whom they depend for economic resources (e.g., budget allocations, financing, and personal loans). As discussed earlier, the Western conception of friendship is a relationship free of instrumental purposes (Silver, 1990). This separation is heightened when economic resources are at stake. This is because, unlike information and task advice, money is fungible and easily quantifiable. Hence it is more naturally the subject of specific exchange, which involves an instrumental tone of interaction, rather than general exchange, which involves a more affective tone (Bearman, 1997; Flynn, 2005;

Sahlins, 1972). Because of the tension in combining economic exchange and affectivity, we expect that in American professional networks the presence of economic dependence in a given relationship will not be positively associated with affect-based trust.

Conversely, the familial collectivism orientation in Chinese culture condones the blending of instrumental and affective relationships. In particular, ethnographers have noted the merging of affective closeness with economic dependence relationships (Hsu, 1953). This tendency toward mixing affect with economic exchange is also extended outside one's actual family to the work and business settings. For instance, people who provide economic assistance (e.g., loans, jobs, and investment opportunities) are accorded with a familial level of affective closeness. The relationship becomes personalized through invitations to family events such as dinners and birthday parties. In other words, economic dependence ties are overlaid with affective closeness. Hence, for Chinese managers, the presence of economic dependence in a relationship should increase affect-based trust.

Hypothesis 2a: The presence of an economic-dependence tie is more positively associated with affect-based trust for Chinese managers than for American managers.

Friendship Ties and Affect-based Trust

Affect-based trust tends to be associated with friendship ties more than non-friendship ties in managers' networks (Chua, Ingram, & Morris, 2008). However, we expect that it hinges on friendship to a lesser extent in Chinese than American culture. A feature of familial collectivism is reflected in the fact that the three familial ties in the Confucian cardinal relationships (father–son, husband–wife, and elder brother–younger brother) are all hierarchical. These hierarchical ties are affectively close in ways different from the equal relationship of friendship. Whereas an American might befriend a well-liked teacher or superordinate, a Chinese person would be more likely to grow affectively close to such people without befriending them. The affect felt might have the quality of admiration and reverence rather than the sympathy and similarity felt in friendship (Morris, Podolny, & Sullivan, 2008). Likewise, a Chinese person would be unlikely to regard a subordinate as a friend. In sum, friendship is but one of the many differentiated sources from which affect-based trust could develop in Chinese culture. Furthermore, given the dominance of family interaction over other relationships, friendship ties are usually given lower importance than family ties and hence should be comparatively less predictive of affect-based trust.

By contrast, American cultural norms do not emphasize hierarchical roles nearly as much (Hofstede, 1980). For example, it is acceptable to regard one's teachers and superordinates as friends. Also, in the egalitarian American culture, friendship ties are often given emphasis as strong as that of other types of tie such as family ties. Hence friendship should be coextensive with affective closeness generally. Thus we hypothesize that friendship co-varies with affect-based trust to a greater degree in American networks than in Chinese networks.

Hypothesis 2b: The presence of a friendship tie is more positively associated with affect-based trust for American managers than for Chinese managers.

Embeddedness and Cognition-based Trust

Finally, we consider how an alter's embeddedness influences ego's cognition-based trust in him or her. One main feature of Chinese familial collectivism is the preference for extended family structures, because it provides the means to draw on the resources of a network of family members and relatives. When this norm of social interaction is applied to the work and business settings, it suggests that the Chinese people tend to draw on their social networks to accomplish tasks and solve problems. This implies attention to *indirect* ties, their associates' connections to third parties (Ho, 1976, 1998). Chinese managers cultivate ties not only toward those who directly hold the needed expertise or resources, but also toward those who are connected to these individuals. These "connected" people are perceived as instrumentally valuable not because of what they can offer directly but because of what they offer indirectly through their contacts. We argue that people judge others' connectedness partially based on the connections they can see. Hence Chinese managers should perceive highly embedded alters as capable of providing help.

Furthermore, embedded alters would be seen as reliable. The more an embedded alter is in ego's network, the higher would be the social cost of the alter's defecting on ego. Given that the norms of Chinese familial collectivism would render Chinese

managers more sensitive toward potential social sanction from others in their network (Tong & Yong, 1998; Xiao & Tsui, 2007; Yang, Van de Vliert, & Shi, 2005), embeddedness should be highly effective for Chinese as a form of social insurance. Thus alter's embeddedness should increase ego's perception of alter's reliability. The perception of alter's increased competence and reliability should increase ego's cognition-based trust in this alter.

By contrast, in American culture, the emphasis is on individual achievements and success (Oyserman & Markus, 1993; Triandis, 1995). Although businesspeople in the US also draw on help from others, they are less likely to think they can draw on their associates' connections. In addition, because individualism makes Americans less worried about social approval compared with Chinese (Markus & Kitayama, 1991; Oyserman, 1993), alter's embeddedness may not be as effective as a form of social insurance against defection. As a result, it should not have as strong an impact on perceptions of reliability. In sum, we predict that alter's embeddedness will have a greater positive effect on cognition-based trust for Chinese than for Americans.

Hypothesis 3: An alter's degree of embeddedness in ego's network will increase ego's cognition-based trust to a greater extent in Chinese than in American culture.

While on the topic of embeddedness, it is worth commenting on its relation to affect-based trust. Based on Coleman's (1990) argument that dense ties promote solidarity, it follows that there should be a positive effect. Chua et al. (2008) found this effect with a sample of executives in the US. We believe that the positive effect of alter's embeddedness on affect-based trust should hold for Chinese managers as well.

METHOD

Participants and Research Setting

We test the above hypotheses using egocentric network data collected from executives attending executive MBA courses in both China (Beijing, Shanghai, and Guizhou) and the United States. Two waves of data were collected. The first wave of data (N=231) includes 143 Chinese (75% males) and 88 American managers (75% males). The second wave of data (N=102), collected approximately 1 year after the first wave of data collection, includes 60 Chinese (82% males) and 42 American managers (81% males). Because the results regarding our hypotheses are identical in both studies, we combined both datasets, resulting in a total of 203 Chinese participants and 130 American participants.

The mean age of these participants was 36. For the American sample, the most common industries of employment were information technology (22%), finance and banking (19%), and consulting (16%). Typically, the participants held managerial positions in large companies. For example, many were vice-presidents and managing directors at internationally known banks and financial institutions, or managers at prominent consulting firms. Other participants held executive positions in smaller companies (e.g., CEO of a family printing business). For the Chinese sample, the most common industries of employment were pharmaceutical/medical (45%), manufacturing (10%), consulting (8%), and information technology (7%). Many of these participants held general management positions (35%), whereas others were in sales/marketing (17%), research and development (14%), and business development (14%).

Procedure

Participants (egos) completed a network survey that required them to list up to 24 contacts (alters) whom they considered to be important members of their professional networks. These contacts were not restricted to people at their workplace. For each contact listed, participants were asked to furnish details on the nature of their relationship (e.g., frequency of interaction and relationship duration). Participants were also asked to indicate whether any relationships existed among the contacts they listed.

Measures

Affect- and cognition-based trust. Measures of affect- and cognition-based trust were adapted from items in McAllister's (1995) study. For affect-based trust, participants were asked to indicate on a five-point scale (1=not at all, 5=to a great extent) the extent to which they felt comfortable going to each listed contact to (1) share their personal problems and difficulties and (2) share their hopes and dreams. These items capture an emotion-oriented willingness to depend on and be vulnerable to the other person. For cognition-based trust, participants indicated on the same five-point scale the extent to which the contact could be *relied* on to

(1) complete a task that he or she has agreed to do and (2) have the knowledge and competence for getting tasks done. These items captured a more evidence-oriented willingness to depend on the other person. We used only two items for each type of trust mainly to minimize participants' fatigue: in network surveys, participants had to answer the same set of questions as many times as the number of contacts listed. However, given that the chosen items were adapted from high-loading items (above 0.80) in previously published studies (e.g., Levin & Cross, 2004; McAllister, 1995), they should substantially capture the two trust constructs.[3]

To ascertain that affect- and cognition-based trust are two distinct facets of trust, we conducted multilevel confirmatory factor analyses[4] using structural equation modeling (LISREL 8.80) on the four trust items. Specifically, we fitted two models (a one-factor model with all four items loading on one single factor vs a two-factor model with the affect-based and cognition-based trust items loading onto two separate factors) for the Chinese and American data separately. Results indicate that, for the American sample, a two-factor model (χ^2=53.35; d.f.=5; RMSEA=0.09) fits our data significantly better than a one-factor model (χ^2=642.06; d.f.=4; RMSEA=0.35). Similarly, for the Chinese sample, we found that a two-factor model (χ^2=13.76; d.f.=5; RMSEA=0.03) fits the data significantly better than a one-factor model (χ^2=1145.43; d.f.=4; RMSEA=0.35). These results suggest that affect- and cognition-based trust are two distinct factors in both American and Chinese contexts.

Relational contents. Participants were asked to indicate in the network survey which of the following resources was obtained from each network member:

(1) economic resources;
(2) friendship and social enjoyment;
(3) information or advice for getting tasks done; and
(4) information on career guidance and opportunities.

Although our hypotheses focus only on economic dependence and friendship ties, we captured the other two types of exchange as controls since these are common in managerial interactions. The content of network ties were captured using dummy codes, that is, coded "1" if the specific form of resource was being obtained from alter and "0" otherwise. The four categories were non-exclusive, so a given alter could provide multiple resources.

Alter's embeddedness. Participants indicated whether any positive relationships existed among the listed alters by filling in a half-matrix where each cell represented the relationship between two alters. Specifically, participants were told that positive relationships can be close (e.g., when people work very close together or have a high level of friendship) or not especially close (e.g., people who know each other but are not in frequent contact, and are not strong friends or enemies). Alter's embeddedness is the number of observed positive ties that exist between a given alter and the other network members divided by the total number of possible ties that this alter can have with these other members (excluding alter's tie to ego). We also collected data on negative relationships between alters, but these were relatively rare and did not have any effect on our hypotheses.

Control Variables

Network size. Network theories commonly assume that individuals have an implicit relational capacity, and that the cognitive and emotional costs of maintaining relationships put an upper bound on the number of relationships any individual may effectively maintain (Granovetter, 1973). In our context, it is probable that individuals have limited capacity in adding trusted others to their networks. Conversely, larger networks might also engender trust, perhaps by providing ego with more relational experience. For these reasons, we controlled for ego's network size, which is operationalized as the total number of listed contacts in each participant's network.

Relationship duration. It is likely that the longer the relationship duration, the higher the trust. This variable is the number of years ego has known alter.

Frequency of interaction. The more often ego interacts with alter, the more ego learns about alter's competence and reliability (Burt, 2005). In addition, stronger relational bonds can be forged. Hence frequency of interaction should have a direct positive impact on both affect- and cognition-based trust. We measured frequency of interaction in terms of how often ego talks to alter. Participants were asked to select only one of these options for each contact listed:

(1) daily;
(2) weekly;

(3) monthly; and
(4) not often.

We recoded the responses into a single variable such that "1" represents infrequent interaction and "4" represents daily interaction.

Alter characteristics. We captured whether alter is

(1) within ego's work unit;
(2) not in ego's work unit but within ego's organization; or
(3) outside ego's organization.

These indicators were coded into two dummy variables: "alter is in same work unit as ego" and "alter is in a different organization than ego." The third category, "in ego's organization but not work unit," was the omitted category in the analysis. We also captured other demographic variables such as alter's age, rank (higher, lower, or same rank), and whether there were any gender or race differences between alter and ego. Specifically, participants indicated whether each alter was of higher rank, same rank, or lower rank than themselves. These indicators were then recoded into two dummy variables, "higher rank" and "lower rank"; "same rank" was the omitted category in the analysis. For race and gender difference participants simply indicated whether alter was of different race and sex (coded "1" if ego and alter differ along the given demographic dimension and "0" otherwise).

Ego's industry and job function. To control for possible influences that industry and job function have on trust, we obtained participants' job descriptions from the class "face book" and coded them into eight main industries (finance/banking, consulting, consumer products, medicine/pharmaceutical, media, manufacturing, information technology, and others) and eight main job functions (finance/accounting, sales/marketing, operations, general management, technical, business development, research and development, and others). Dummy indicators for these categories were used as controls in the regression analysis.

Analyses

Variables in our data are hierarchically nested. Specifically, up to 24 dyadic relationships are associated with a given ego. Trust, our dependent variable, is conceptualized and measured at the dyadic level, as are other variables such as frequency of interaction and duration known. In our data, trust was measured uni-directionally, that is, we only assessed the extent to which ego trusts alter but not vice versa. Other variables such as network size are higher-level constructs and were measured at the network level for each ego.

A methodological concern in our analysis is the non-independence of observations given that each ego is associated with multiple alters. Analyses that do not take into consideration the nested data structure can misrepresent the effects within a given network (Klein, Dansereau, & Hall, 1994). To address this issue, we considered fixed- and random-effects models, two common approaches for controlling for the influence of a given ego on multiple observations (Hausman, Hall, & Griliches, 1984; Hoffman, Griffin, & Gavin, 2000). In our analyses, both approaches yielded similar results. We report results from the random-effects models (also known as hierarchical linear models) because these allow for the estimation of both within- and between-network effects on trust. This approach will give us not only coefficient estimates for alter-level variables (e.g., duration known) but also substantively important ego-level variables, particularly country and the size of ego's network. Random-effects models require the assumption that the random error associated with each cross-sectional unit (ego) is not correlated with other regressors. Using Hausman's (1978) test, we found this assumption to be valid for the analyses of both of types of trust. Past network research has also used random-effects models to address the problem of non-independence of data (e.g., Cross & Sproull, 2004).

Results

Table 1 shows the descriptive statistics and correlations among the variables. Table 2 reports the regression results. In Models 1–4 affect-based trust is the dependent variable, whereas in Models 5–8 cognition-based trust is the dependent variable. We will examine each model in turn as we consider the hypotheses.

Models 1 and 5 are the base models, which include all the key variables and control variables. Model 2 adds the country × cognition-based trust interaction term, whereas Model 6 adds the country × affect-based trust interaction term. The results indicate that the coefficients for country × cognition-based trust interaction (Model 2: $b=-0.11$, $p<0.01$) and country × affect-based trust interaction (Model 6: $b=-0.15$ $p<0.01$) are negative and significant. Since we coded the country

Table 1 Descriptive statistics and correlations

	Mean	s.d.	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Country=United States (N=130)																						
1. Affect-based trust	3.17	1.27	1	5	1.00																	
2. Cognition-based trust	4.09′	0.93	1	5	0.35*	1.00																
3. Friendship	0.60	0.49	0	1	0.49*	0.20*	1.00															
4. Task advice	0.59	0.49	0	1	0.05*	0.17*	0.03	1.00														
5. Economic dependence	0.23	0.42	0	1	−0.10*	0.01	−0.13*	0.01	1.00													
6. Career information and guidance	0.59	0.49	0	1	0.18*	0.17*	0.10*	0.02	0.00	1.00												
7. Alter of higher rank than ego	0.44	0.50	0	1	−0.15*	0.05*	−0.20*	−0.03	0.20*	0.26*	1.00											
8. Alter of lower rank than ego	0.19	0.39	0	1	0.00	−0.09*	0.03	0.04*	−0.10*	−0.27*	−0.43*	1.00										
9. Alter is of different gender from ego	0.27	0.44	0	1	−0.06*	0.03	−0.02	0.06*	−0.01	−0.04*	0.02	0.03	1.00									
10. Alter is of different race from ego	0.19	0.40	0	1	−0.09*	0.02	−0.01	0.03	0.05*	−0.03	−0.01	0.05*	0.06*	1.00								
11. Alter's embeddedness	0.30	0.27	0	1	−0.02*	−0.06*	−0.07*	0.12*	0.12*	−0.17*	−0.04	0.13*	0.06*	0.01	1.00							
12. Frequency of interaction	2.39	1.04	1	4	0.23*	0.11*	0.13*	0.24*	0.08*	−0.07*	−0.16*	0.17*	0.04*	0.03	0.32*	1.00						
13. Relationship duration	6.54	6.80	0	44	0.28*	0.07*	0.23*	−0.07*	0.08*	0.08*	−0.01	0.01	−0.08*	−0.15*	−0.04	−0.08*	1.00					
14. Network size	21.61	4.08	5	24	0.07*	0.05*	0.00	0.04*	0.06*	0.06*	−0.04	0.04*	−0.05*	−0.07*	−0.17*	−0.08*	0.05*	1.00				
15. Ego is male	0.78	0.42	0	1	−0.01	−0.16*	−0.09*	−0.08*	0.04*	−0.06*	−0.05*	0.08*	−0.36*	−0.07*	0.00	0.03	0.06*	0.02	1.00			
16. Alter in ego's work unit	0.18	0.39	0	1	−0.06*	0.02	−0.12*	0.18*	0.08*	−0.09*	−0.01	0.17*	0.05*	0.07*	0.26*	0.48*	−0.17*	−0.06*	−0.01	1.00		
17. Alter not in ego's work organization	0.63	0.48	0	1	0.19*	0.04*	0.22*	−0.24*	−0.10*	0.14*	−0.03	−0.15*	−0.11*	−0.08*	−0.39*	−0.42*	0.26*	0.03	0.02	−0.62*	1.00	
18. Alter's age	40.89	9.55	20	91	−0.13*	0.00	−0.20*	0.01	0.20*	0.09*	0.43*	−0.20*	−0.01	−0.06*	0.06*	−0.16*	0.15*	0.00	−0.02	−0.01	−0.02	1.00

Table 1 Continued

	Mean	s.d.	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Country=China (N=203)																						
1. Affect-based trust	3.03	1.21	1	5	1.00																	
2. Cognition-based trust	3.59	1.14	1	5	0.55*	1.00																
3. Friendship	0.64	0.48	0	1	0.25*	0.10*	1.00															
4. Task advice	0.48	0.50	0	1	−0.09*	0.05*	−0.12*	1.00														
5. Economic dependence	0.18	0.38	0	1	0.02	0.07*	−0.12*	−0.05*	1.00													
6. Career information and guidance	0.25	0.43	0	1	0.07*	0.12*	−0.07*	0.03	0.06*	1.00												
7. Alter of higher rank than ego	0.29	0.46	0	1	−0.05*	0.11*	−0.11*	0.04*	0.16*	0.25*	1.00											
8. Alter of lower rank than ego	0.31	0.46	0	1	−0.02	−0.07*	0.01	0.07*	−0.12*	−0.24*	−0.43*	1.00										
9. Alter is of different gender from ego	0.27	0.45	0	1	0.01	0.07*	0.01	0.03*	0.00	0.05*	−0.01	0.04*	1.00									
10. Alter is of different race from ego	0.03	0.17	0	1	−0.02	0.05*	−0.08*	0.01	0.01	0.04*	0.07*	−0.08*	0.07*	1.00								
11. Alter's embeddedness	0.36	0.27	0	1	0.01	0.09*	0.00	0.27*	−0.07*	−0.02	0.04*	0.10*	0.00	−0.02	1.00							
12. Frequency of interaction	2.17	1.09	1	4	0.07*	0.03*	−0.07*	0.20*	0.07*	−0.08*	−0.14*	0.24*	0.09*	−0.04*	0.26*	1.00						
13. Relationship duration	8.75	8.32	0	65	0.29*	0.09*	0.18*	−0.18*	0.01	0.03*	0.00	−0.05*	−0.02	−0.03*	−0.08*	−0.12*	1.00					
14. Network size	23.22	2.66	4	24	−0.02	−0.11*	−0.03	−0.02	0.03*	0.03	−0.02	−0.01	0.03	0.04*	−0.12*	0.01	−0.03*	1.00				
15. Ego is male	0.77	0.42	0	1	0.06*	0.02	0.02	0.00	0.00	−0.04*	−0.03	0.02	−0.30*	−0.01	0.04*	−0.08*	0.03	0.01	1.00			
16. Alter in ego's work unit	0.20	0.40	0	1	−0.08*	−0.01	−0.09*	0.27*	−0.04*	−0.11*	−0.15*	0.37*	0.05*	0.07*	0.25*	0.37*	−0.21*	0.01	−0.02	1.00		
17. Alter not in ego's work organization	0.55	0.50	0	1	0.15*	0.02	0.16*	−0.35*	0.06*	0.06*	0.04*	−0.26*	−0.02	−0.05*	−0.40*	−0.40*	0.27*	0.01	0.03	−0.56*	100	
18. Alter's age	39.25	9.91	0	81	0.12*	0.14*	−0.03	−0.09*	0.14*	0.15*	0.35*	−0.29*	−0.07*	0.03*	−0.07*	−0.17*	0.32*	−0.02	0.04*	−0.23*	0.16*	1.00

*$p < 0.05$.

Table 2 Random effects regression on affect- and cognition-based trust

Dependent variable	*Model*							
	Affect-based trust				*Cognition-based trust*			
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
Intercept	1.42**	1.41**	1.58**	1.53**	3.22**	3.20**	3.19**	3.24**
	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)
Key variables								
Country[a]	−0.10	−0.09	−0.42**	−0.41**	0.22**	0.22**	0.22*	0.21*
	(0.08)	(0.08)	(0.10)	(0.10)	(0.08)	(0.08)	(0.09)	(0.09)
Cognition-based trust	0.45**	0.48**	0.50**	0.50**	NA	NA	NA	NA
	(0.01)	(0.02)	(0.02)	(0.02)				
Affect-based trust	NA	NA	NA	NA	0.30**	0.37**	0.37**	0.37**
					(0.01)	(0.01)	(0.01)	(0.01)
Economic-dependence tie	0.02	0.02	0.08*	0.09*	0.08**	0.07**	0.13**	0.12**
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)
Friendship tie	0.63**	0.64**	0.44**	0.44**	0.03	0.05	0.05†	0.05†
	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)
Task-advice tie	0.04	0.04†	−0.03	−0.01	0.20**	0.21**	0.19**	0.18**
	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)
Career-guidance tie	0.22**	0.23**	0.17**	0.17**	0.13**	0.14**	0.14**	0.14**
	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)
Alter's embeddedness	0.19**	0.18**	0.18**	0.05	0.16**	0.17**	0.17**	0.29**
	(0.06)	(0.06)	(0.06)	(0.07)	(0.05)	(0.05)	(0.05)	(0.06)
Key country interactions								
Country × cognition-based trust (H1)	—	−0.11**	−0.16**	−0.16**	NA	NA	NA	NA
		(0.03)	(0.03)	(0.03)				
Country × affect-based trust (H1)	NA	NA	NA	NA	—	−0.15**	−0.15**	−0.15**
						(0.02)	(0.02)	(0.02)
Country × economic-dependence tie (H2a)	—	—	−0.18**	−0.20**	—	—	−0.15**	−0.13*
			(0.05)	(0.05)			(0.04)	(0.05)
Country × friendship tie (H2b)′	—	—	0.49**	0.49**	—	—	0.02	0.02
			(0.05)	(0.05)			(0.04)	(0.05)
Country × task-advice tie	—	—	0.09*	0.07	—	—	0.06	0.08*
			(0.05)	(0.05)			(0.04)	(0.04)
Country × career-guidance tie	—	—	0.08†	0.08†	—	—	−0.01	−0.01
			(0.05)	(0.05)			(0.04)	(0.04)
Country × alter's embeddedness (H3)	—	—	—	0.39**	—	—	—	−0.36**
Control variables				(0.12)				(0.10)
Network size	0.02*	0.02*	0.02*	0.02*	0.00	0.00	0.00	−0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)

Table 2 Continued

Dependent variable	*Model*							
	Affect-based trust				*Cognition-based trust*			
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
Ego is male	0.07	0.06	0.08	0.08	−0.02	−0.03	−0.03	−0.03
	(0.08)	(0.08)	(0.08)	(0.08)	(0.09)	(0.08)	(0.09)	(0.08)
Relationship duration	0.03**	0.03**	0.03**	0.03**	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Frequency of interaction	0.23**	0.23**	0.22**	0.22**	0.05**	0.05**	0.05**	0.05**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Alter in different organization from ego	0.32**	0.33**	0.31**	0.31**	0.03	0.03	0.03	0.03
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)
Alter in same unit as ego	−0.10**	−0.09**	−0.08**	−0.09**	0.04	0.05†	0.05†	0.05†
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)
Alter of higher rank than ego	−0.21**	−0.21**	−0.21**	−0.21**	0.16**	0.16**	0.16**	0.16**
	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Alter of lower rank than ego	0.01	0.01	0.00	0.01	−0.09**	−0.09**	−0.09**	−0.09**
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)
Alter's age	−0.004**	−0.003*	−0.003*	−0.003*	0.003**	0.003**	0.003**	0.003**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Gender difference between ego and alter	−0.06**	−0.06**	−0.05*	−0.05*	0.08**	0.07**	0.07**	0.08**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Race difference between ego and alter	−0.05	−0.05	−0.06	−0.06	0.07*	0.07*	0.06†	0.06†
	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
No. of dyadic observations	7086	7086	7086	7086	7086	7086	7086	7086
Overall model R^2	0.396	0.399	0.410	0.412	0.307	0.324	0.325	0.328
Chi-square change	5105.59**	17.36**	138.55**	11.33**	2374.03**	91.59**	14.23**	13.59**

Control variables for industry and job function are not presented owing to space constraints.
Continuous variables used in interaction terms (i.e., affect- and cognition-based trust, alter's embeddedness) have been mean-centered.
Above reported coefficients are unstandardized. Standard errors are reported in parentheses.
Chi-square changes for Models 1 and 5 are derived by comparing the given model with a constant-only model.
[a]Country is coded 1 for United States and 0 for China.
†$p \leqslant 0.1$; *$p \leqslant 0.05$; **$p \leqslant 0.01$.

variable as "1" for United States and "0" for China, this implies that the interdependence between cognition-based trust and affect-based trust is stronger in the Chinese sample than in the American sample. Indeed, correlation between the two types of trust is 0.55 for the Chinese sample but 0.35 for the American sample. These two correlations are significantly different (z=10.30, $p<0.01$). Hence Hypothesis 1 is supported.

To test Hypotheses 2a and 2b, Model 3 in Table 2 adds country × relational-content interaction terms for four types of network tie (economic-dependence tie, friendship tie, task-advice tie, and career-guidance tie). We added all four interactions, although we have hypotheses for only two of them because the other two types of tie (task-advice and career-guidance) are also instrumental relationships. Given our argument that Americans experience more tension in mixing instrumental and socio-emotional concerns, it is important to control for possible country interaction effects arising from these ties.

The results indicate a significant country × economic-dependence tie interaction (b=−0.18, $p<0.01$). The negative coefficient suggests that Chinese managers are more likely than American managers to have affect-based trust in those whom they depend on for economic resources. Separate analysis of each country sample indicates that economic-dependence tie is positively associated with affect-based trust for Chinese managers (b=0.09, $p<0.01$) but negatively associated with affect-based trust for American managers[5] (b=−0.13, $p<0.01$). This pattern of interaction is illustrated in Figure 1. Overall, Hypothesis 2a is supported. There is also a significant country × friendship tie interaction (b=0.49, $p<0.01$). The positive coefficient suggests that friendship ties are more strongly associated with affect-based trust for Americans (b=0.88, $p<0.01$) than for Chinese (b=0.45, $p<0.01$), supporting Hypothesis 2b. This pattern of interaction is illustrated in Figure 2.

To assess the country × alter's embeddedness interaction effect on cognition-based trust (Hypothesis 3), we fitted two models (Models 7 and 8 in Table 2) whereby cognition-based trust is the dependent variable. We also fitted a model with a country × alter's embeddedness interaction term for affect-based trust (Model 4). We present Models 4 and 7 for completeness, although we do not have any hypotheses that could be assessed from these models. Of particular interest is Model 8, since this model directly tests Hypothesis 3. The results from

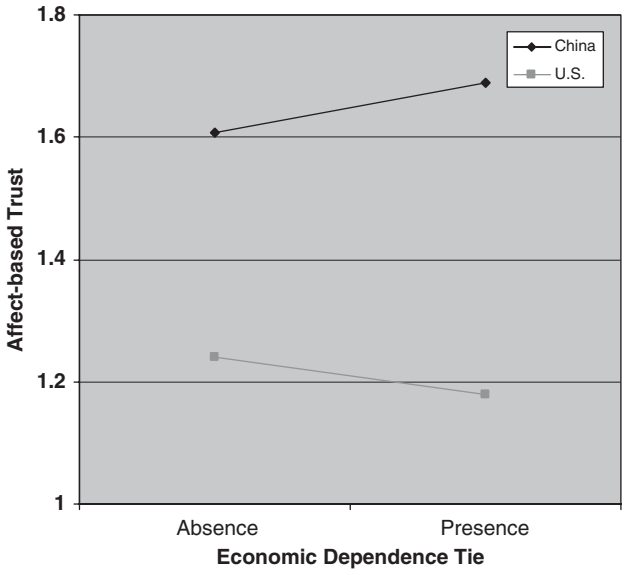

Figure 1 Effects of country × economic-dependence tie interaction on affect-based trust.

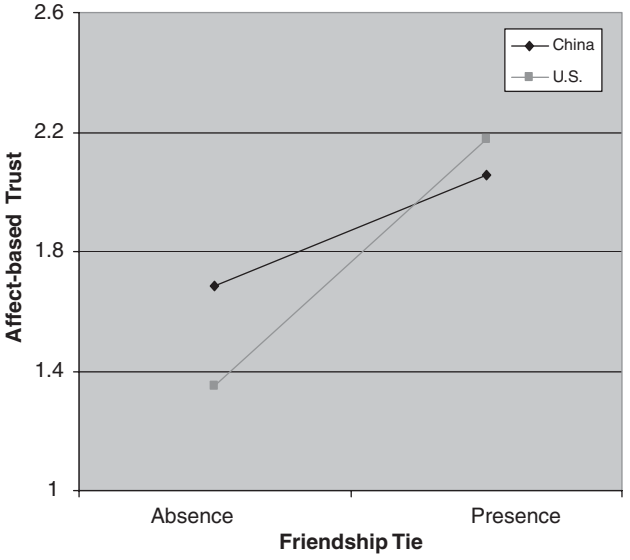

Figure 2 Effects of country × friendship tie interaction on affect-based trust.

Model 8 indicate a significant negative coefficient for the country × alter's embeddedness interaction term (b=−0.36, $p<0.01$). Separate analysis of each country's sample indicates that whereas alter's embeddedness increases cognition-based trust significantly for Chinese managers (b=0.28, $p<0.01$), there is no such effect for American managers (b=−0.08, p=0.38). This pattern of interaction is illustrated graphically in Figure 3. Thus Hypothesis 3 is supported.

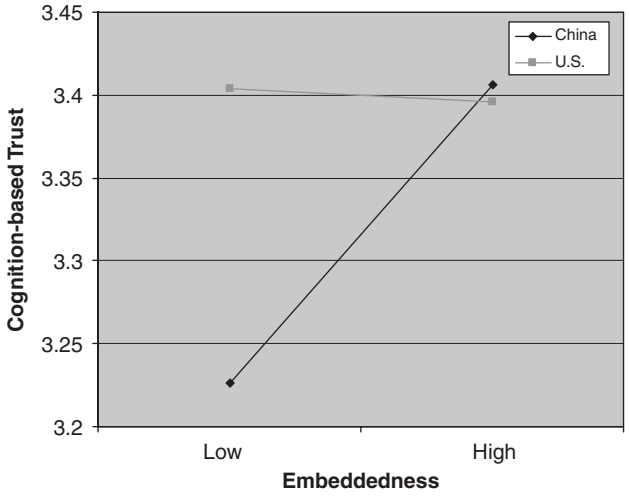

Figure 3 Effects of country × embeddedness interaction on cognition-based trust. *Note*: low vs high embeddedness represent minus and plus one standard deviation from the mean.

SUPPLEMENTARY ANALYSES

We have argued that differences in the social structure of trust in Chinese vs American professional networks reflect Chinese familial collectivism, an extension of family norms to business settings. Although it did not occur to us *a priori*, it is worth checking an interpretation of how this occurs. Chinese managers may actually have more kin in their professional networks (Chow & Ng, 2004; Ng & Chow, 2005; Peng, 2004), and thus the family-like patterns in our results may be driven by patterns of interaction with actual family members. Given this possibility, it is interesting to explore whether these results come from bringing kin into one's business, or from imposing family-like interaction norms on business associates who are not kin.

To explore this would require an indicator of kinship ties between ego and alter. Although our survey did not directly ask about kinship, we can plausibly infer it from something we *do* know – the respective ages of ego and alter when they first met. Specifically, we computed ego's age when he or she first met alter by subtracting the duration of the relationship from ego's age. Similarly, we computed alter's age when he or she first met ego by subtracting the duration of the relationship from alter's age. Next, we generated two types of kin-like tie:[6]

(1) Kin-like ties to peers (coded as "1" if both ego and alter were below age 21 when they first met,[7] "0" otherwise). Examples of alters in such relationships include siblings, cousins, old friends, and similar age neighbors.

(2) Kin-like ties to mentor figures (coded as "1" if ego was below 21 when he or she first met alter and alter is at least 10 years older than ego, "0" otherwise). Examples of alters in such relationships include parents, teachers, uncle or aunt, and other older relatives.

We next analyzed whether these kin-like ties were more likely in Chinese or American networks, and more likely to be associated with other characteristics of the alter and of ego's network. Table 3 presents *probit* regressions of the likelihood that a given alter is either a kin-like mentor or kin-like peer. We organize our discussion of the results[8] around several key questions.

Do rates of kin in professional networks differ across culture? We found that Chinese managers reported significantly more kin-like ties involving peers ($b=-0.69$, $p<0.01$) and mentor figures ($b=-0.70$, $p<0.01$) than did American managers. On average, 6.2% of Chinese network ties contain kin-like relationships involving a mentor figure, whereas only 3.8% of American network ties contain these relationships (difference is significant at $t=4.42$, $p<0.01$). Of Chinese network ties, 10.5% contain kin-like peer relationships, whereas 6% of American network ties contain kin-like peer relationships (difference is significant at $t=6.52$, $p<0.01$). Hence there is evidence that Chinese have more kin-like ties in their business networks.

Do the other correlates of kinship differ between Chinese and Americans? We found a positive association between friendship tie and kin-like mentor tie for American managers but not for Chinese managers (interaction effect: $b=0.28$, $p<0.05$). Chinese are less likely to regard mentor figures as friends than are Americans. Kin-like peer ties, on the other hand, are likely to be associated with friendship ties in *both* Chinese and American samples (main effect: $b=0.32$, $p<0.01$). However, this relationship is also stronger for Americans than for Chinese (interaction effect: $b=0.30$, $p<0.01$). In other words, kin-like relationship involving peers is more separated from friendship in Chinese culture than American culture. These results provide direct evidence for our argument that the category of friendship is less encompassing of close relationships and hence less predictive of affect-based trust for Chinese than for Americans.

Alters that provide ego with economic resources are more likely to be kin-like mentors for American managers ($b=0.61$, $p<0.01$) than for Chinese managers ($b=0.14$, $p=0.20$) (interaction effect: $b=0.44$;

Table 3 Supplementary analyses: probit maximum likelihood estimation on kin-like ties

Dependent variable	*Kin-like peer tie*	*Kin-like mentor tie*
Intercept	−1.83**	−2.34**
	(0.33)	(0.38)
Key variables		
Country[a]	−0.69**	−0.70**
	(0.21)	(0.19)
Cognition-based trust	−0.06*	−0.04
	(0.03)	(0.05)
Affect-based trust	0.24**	0.17**
	(0.04)	(0.04)
Economic-dependence tie	−0.21**	0.11
	(0.09)	(0.11)
Friendship tie	0.32**	−0.01
	(0.10)	(0.10)
Task-advice tie	−0.22**	−0.25**
	(0.07)	(0.08)
Career-guidance tie	−0.03	0.03
	(0.08)	(0.10)
Alter's embeddedness	−0.19	0.17
	(0.18)	(0.18)
Key country by tie interactions		
Country × economic dependence tie	0.44**	0.44**
	(0.16)	(0.17)
Country × friendship tie	0.30*	0.28*
	(0.17)	(0.14)
Country × task advice tie	0.06	0.25*
	(0.13)	(0.15)
Country × career guidance tie	0.07	0.12
	(0.14)	(0.17)
Control variables		
Network size	−0.01	0.00
	(0.01)	(0.01)
Ego is male	0.07	−0.05
	(0.09)	(0.11)
Frequency of interaction	−0.03	−0.03
	(0.04)	(0.04)
Alter in different organization from ego	0.60**	0.27**
	(0.10)	(0.08)
Alter in same unit as ego	−0.17	−0.14†
	(0.13)	(0.10)
Alter of higher rank than ego	−0.38**	0.50**
	(0.07)	(0.08)
Alter of lower rank than ego	0.11†	0.18*
	(0.07)	(0.08)
Gender difference between ego and alter	−0.04	−0.10†
	(0.07)	(0.06)
Race difference between ego and alter	−0.41*	−0.50**
	(0.21)	(0.15)
No. of dyadic observations	7183	7183
Overall model R^2	0.17	0.11

Note: Above reported coefficients are unstandardized. Standard errors are reported in parentheses.
[a]Country is coded 1 for United States and 0 for China.
†p⩽=0.1; *p<=0.05; **p<=0.01.

p<0.01). Further, alters that provide economic resources seem more likely to be kin-like peers for Americans (b=0.19; p=0.16) but less likely to be kin-like peers for Chinese (b=−0.19; p<0.05) (interaction effect: b=0.44; p<0.01). Although we expect Chinese managers to receive economic resources from kin, given their tendency to mix economic concerns with affective concerns, we did not find direct evidence for it. One explanation is that the kin-like alters of this generation of mainland Chinese managers are less affluent than their American counterparts, and hence less likely to provide financial help.

Do cultures differ when kin are selected out? We reanalyzed our data using the same regression models but excluded all kin-like ties (about 16.7% of all ties in Chinese networks and 9.8% of all ties in American networks). We found that all our hypothesized effects remained. This suggests that our findings regarding the differences in the social structure of trust in Chinese vs American networks are not due solely to Chinese managers having more kin-like alters in their networks. Rather, Chinese managers apply familial norms to non-kin in the workplace.

DISCUSSION

In both Chinese and Western cultures businesspeople have considered one's social network to be critical for business success. Yet business relationships in these cultures do not necessarily develop in the same way. The current research used methods of social network analysis to investigate trust as a differentiating dimension between Chinese and Western networks. We found that the social structure of trust in Chinese professional networks differs from that in American professional networks in ways consistent with arguments about familial collectivism and observations of Chinese networking behavior. Specifically, affect- and cognition-based trust were more intertwined in Chinese executives' network relationships than in those of their American counterparts. Whereas Chinese managers had more affect-based trust in those on whom they economically depend, American managers had less affect-based trust in such individuals. Also, American managers were more likely than Chinese managers to derive affect-based trust from friendship ties. Finally, embeddedness appeared to operate differently for Chinese than for Americans in that it increased cognition-based trust for Chinese managers but not for American managers.

Theoretical Implications

Our research has several theoretical implications. First, the social location of affect-based trust seems to differ between Chinese and American networks. Specifically, affect-based trust is more likely to be intertwined with cognition-based trust in Chinese networks than in American networks. This result is consistent with Sanchez-Burks, Lee, Choi, Nisbett, Zhao, and Koo's (2003) finding that Chinese are more likely to mix socio-emotional concerns with instrumental concerns in the workplace interaction. Furthermore, in Chinese professional networks, affect-based trust is fostered more through ties of economic dependence and less through ties of friendship. This finding supports the notion that social interaction in the Chinese business context is influenced by the norms of familial collectivism, given that in the Chinese family economic exchanges and affective closeness are highly intertwined.

Second, indirect ties appear to play a larger role for Chinese than for American managers. The more embedded a given network member is, the higher the cognition-based trust a Chinese manager has in him or her. There is, however, no such effect for American managers. We have presented two related arguments for why this is the case: one focused on the competence aspect of cognition-based trust and the other on the reliability aspect. It may be an interesting question for future research to determine whether one or both of these mechanisms is at work.

By contrast, for American managers, interconnectedness among network members serves to increase affect-based trust. Specifically, results in Model 4 (Table 2) indicate a significant country $\times$ alter's embeddedness interaction effect on affect-based trust (b=0.39, $p<0.01$), such that alter's embeddedness has a positive effect on affect-based trust for American managers (b=0.44, $p<0.01$) but not for Chinese managers (b=0.06, p=0.36). The result for American managers is consistent with recent research that found that alter's embeddedness increases ego's perception of common group membership with him or her, thereby enhancing affect-based trust (Chua et al., 2008). However, contrary to our expectation, we did not find a similar effect for Chinese managers. It may be that there is a small effect of embeddedness, but it was swamped by the other drivers of affect-based trust in Chinese culture – or perhaps embeddedness has no effect on affect-based trust for Chinese. This is an interesting question for future research. In any case, our results suggest that American managers place affect-based trust in a cohesive "core" group of friends and not in the rest of their networks, whereas for Chinese managers affect-based trust is more distributed across their networks.

Taken together, our findings speak to the observation that personal connections continue to figure prominently in contemporary Chinese business relationships. However, our study does not speak to the question of whether this ultimately derives from China's less reliable legal system (Guthrie, 1998; Rao, Pearce, & Xin, 2005; Xin & Pearce, 1996) or its traditional cultural values and norms. For instance, Rao et al. (2005) argued that when a business environment lacks the backdrop of strong legal institutions, interpersonal trust plays an important role in regulating behavior during business transactions. Yet a strong governance structure does not eliminate the need for trust. For instance, it has been observed that, even as China improves its legal infrastructure, there does not appear to be a decline in the emphasis on personal connections (Tsui, Farh, & Xin, 2004). Our Chinese data were collected primarily in the most developed Chinese cities, such as Shanghai and Beijing, where the legal infrastructure is relatively strong: hence our results are consistent with the view that cultural norms of relationships become functionally autonomous, enduring beyond the economic conditions that originally made them adaptive. However, we cannot rule out that they may derive from norms that developed in response to weak institutions of governance and which still persist.[9]

Practical Implications

Two key practical implications can be drawn from our study. First, because the norm of familial collectivism is deep-rooted in Chinese societies, socio-emotional relationships are usually not cleanly separated from instrumental ones. Thus it is neither uncommon nor inappropriate to achieve instrumental ends through personal relationships. Conversely, relationships that begin as purely instrumental and task-oriented exchanges can be quickly overlaid with affective elements. Understanding this aspect of Chinese networking behavior can greatly reduce culture shock and frustration among foreign businesspeople in China. For instance, practices (e.g., personal considerations being factored into business decisions) which may be construed as corrupt in the eyes of the Westerners may not be so in the eyes of the Chinese people. The ability to

understand and deal with such cultural differences is critical for business success in China.

Second, our research suggests that, in a Chinese business environment, a person's degree of embeddedness in a social network conveys information regarding the instrumental aspects of trustworthiness. The more well-connected an individual is in a focal manager's professional network, the more likely this manager is to trust that he or she is reliable and competent in getting things done. Such a form of trust is especially important as it facilitates cooperation and enhances efficiency during business transactions. Thus, when cultivating business relationships in China, a manager may want to know as many people in the Chinese counterpart's network as possible. In other words, it may not be sufficient to just interact with the person with whom one wants to do business. One also needs to get acquainted with the other people in this person's network, as that could improve one's level of perceived trustworthiness.

Limitations

An inherent issue in cross-sectional analyses is determining the direction of causality. This problem is more relevant for Hypotheses 2b and 2b than for Hypotheses 1 and 3. For Hypothesis 1 both dependent and independent variables are different types of trust, and our hypothesis concerns the intertwining of these two types of trust rather than causality between them. For Hypothesis 3 the network structure that surrounds alter is more likely to be a cause rather than a result of ego's trust in alter, because it depends on others' relations with alter, and is not within the direct control of ego. In contrast, for Hypotheses 2a and 2b we cannot be certain whether the presence of economic-dependence and friendship ties drives the degree of affect-based trust or the other way around. The causality could be reciprocal: for example, managers are likely to seek friendship from those whom they affectively trust, which in turns further strengthens such trust. However, we are not particularly troubled by the likelihood of a complex causal relationship between relational characteristics such as friendship and economic-dependence ties and trust. This is because our key research interest is in understanding the moderating effects of national culture on the relationships between trust and the types of tie, rather than these relationships themselves. In sum, although the direction of causality is an issue that needs to be carefully considered, determining the direction of causality is not critical to answering our research questions about cultural differences in the social structure of trust.

Future Research Directions

In this paper, we explored trust only as a differentiating dimension of Chinese vs American networks. However, the *guanxi* literature suggests other important dimensions such as reciprocity, obligation, and indebtedness among network actors (Farh, Tsui, Xin, & Cheng, 1998; Tsui & Farh, 1997). For example, *guanxi* does not just bring about increased trust and access to valuable resources; it also involves liabilities. By using one's personal connections to achieve some instrumental ends, one immediately incurs an obligation to reciprocate when the need arises. Future research should examine the effect of network ties and structural properties on interpersonal obligation and perceived indebtedness to network members.

Future research should also investigate further the role of indirect ties in Chinese networks. Although scholars have theorized about Chinese people achieving instrumental ends through indirect relationships (e.g., Ho, 1976, 1998), there has been little systematic empirical work to date that directly examines this phenomenon. Some interesting questions include the following. How does one learn about the network connections or non-connections of one's network members (Janicik & Larrick, 2005)? Is there some kind of social network schema involved? Are there cultural differences in the way these schemas are formulated and used?

Lastly, it would be interesting and important to examine whether the gradual adoption of Western managerial practices in China will change the way personal ties are used in the business context. For instance, Chen, Chen, and Xin (2004) found that Chinese employees resent some kinds of favoritism as a function of connections. Specifically, employees have lower trust in managers who favor a nephew or a hometown fellow, but not in managers who favor a close friend or college schoolmate. Future research should continue this investigation into perceptions of fairness or legitimacy of the use of personal ties in order to determine which perceptions are malleable and which are more deeply ingrained.

CONCLUSION

Both Chinese and Western scholars have argued that trust is an important ingredient in social networks (e.g., Burt, 2005; Kao, 1993; Yeung &

Tung, 1996). In this paper we used a trust perspective to examine cultural differences between Chinese and American professional networks. We shed light on the often discussed phenomenon that Chinese prefer to work with those whom they have personal ties with by showing how the social structure of affect- and cognition-based trust differ between Chinese vs American networks. Our research demonstrates that aspects of Chinese social networks can be captured in terms of Western constructs, and that Chinese and American networks do differ in ways that are amenable to empirical analysis.

ACKNOWLEDGEMENTS

We thank the Departmental Editor, Professor Kwok Leung, and three anonymous reviewers for their insightful comments and editorial advice throughout the review process. We also thank members of the Morris Lab for comments and suggestions on earlier versions of this paper.

NOTES

[1]In the literature on collectivism, researchers distinguished between *group collectivism* and *relational collectivism* (e.g., Brewer & Chen, 2007). *Group collectivism* refers to the extent to which people's orientation toward self and others is based on depersonalized relationships with others by virtue of common membership in a symbolic group. By contrast, *relational collectivism* refers to the extent to which people's orientation toward self and others is based on personalized relationships with particular close others and the network connections that extend from these specific dyadic relationships. We see *familial collectivism* as a form of relational collectivism, as it derives from highly personal relationships with family members.

[2]By norms we are referring to descriptive norms (i.e., common practices) as opposed to injunctive norms (i.e., what one ought to do).

[3]We also collected additional data in another MBA class ($N=56$) using the full trust scales from McAllister (1995). The objective is to demonstrate that our two item trust scales are highly correlated with the full trust scales. For the American subsample ($N=45$), Cronbach's alphas for the full cognition- and affect-based trust scales were 0.89 and 0.96, respectively. The two-item scales used in the present research correlated highly with the full trust scales: 0.94 for cognition-based trust ($p<0.01$) and 0.97 for affect-based trust ($p<0.01$). Similarly, for the Asian subsample ($N=11$) Cronbach's alphas for the full cognition- and affect-based trust scales were 0.91 and 0.97, respectively. The two-item scales used in the present research correlated highly with the full trust scales: 0.96 for cognition-based trust ($p<0.01$) and 0.98 for affect-based trust ($p<0.01$). We believe this should provide even more convincing evidence that our two-item scales adequately tap the trust constructs.

[4]Multilevel analysis is required for valid statistical inference when the units of observation are nested within clusters. In our case, trust measures were clustered within networks because each participant reported their level of trust in multiple members within his or her network. Multilevel confirmatory factor analysis handles the nested structure of our data by allowing for the investigation of both within- and between-network variance in the observed trust measures.

[5]The negative association suggests that Americans not only experience tension in mixing affective closeness with economic pursuits, but also actively *reduce* affective closeness with those on whom they depend for economic resources. It is plausible that certain kinds of economic dependence (e.g., receiving a lucrative contract from a business associate) may be accompanied by a distancing of personal interaction so as to maintain perceptions of impartiality. It is an interesting question whether this comes primarily from subjective norms or whether it is driven in some cases by the pressure of American legal institutions.

[6]Although this way of inferring kin-like ties does not directly capture kinship related by blood, genetic kinship is less the issue than whether they have been in familial roles. In Chinese culture, relationships that were forged when one was young and continued well into adulthood are often described in family-like terms (e.g., a mentor/teacher, or an old neighbor who watches one grow up). Thus our method of capturing kin-like relationships includes not only relationship by blood, but also other important relationships that have kin-like qualities.

[7]We also computed kin-like ties using different cut-off ages (15 and 18 year old) and found similar results.

[8]We note that kin-like ties are positively associated with affect-based trust (kin-like peer: $b=0.24$, $p<0.01$; kin-like mentor: $b=0.17$, $p<0.01$) but not cognition-based trust (kin-like peer: $b=-0.06$, $p<0.05$; kin-like mentor: $b=-0.04$, $p=0.44$). Also, kin-like alters are unlikely to be of a difference race (kin-like peer: $b=-0.41$, $p<0.01$; kin-like mentor: $b=-0.50$, $p<0.01$). These findings are consistent with our assumptions that these variables indicate kin.

[9]To further explore the possibility that our findings were not solely the result of institutional factors, we conducted additional analyses on our US data by using

Asian participants who were excluded in prior analyses. Specifically, we conducted the same analyses as in our current study but compared Asian with non-Asian participants within the US sample. We found trends in our results that are consistent with our hypotheses. In particular, the two types of trust appeared more intertwined in Asian than in non-Asian networks. The effects we hypothesized regarding economic dependence ties, friendship ties, and embeddedness, though not significant owing to the small Asian sample (N=29), are all in the expected directions. These results suggest that our findings could indeed be driven by differences in traditional cultural norms and values.

REFERENCES

Bearman, P. 1997. Generalized exchange. *American Journal of Sociology*, 102(5): 1383–1415.

Bond, M. H., & Hwang, K. K. 1986. The social psychology of Chinese people. In M. H. Bond (Eds), *The psychology of the Chinese people*: 213–266. Hong Kong: Oxford University Press.

Brewer, M., & Chen, Y. 2007. Where (who) are collectives in collectivism? Toward conceptual clarification of individualism and collectivism. *Psychological Review*, 114(1): 133–151.

Burt, R. S. 2005. *Brokerage and closure*. New York: Oxford University Press.

Butler, J. K. 1991. Toward understanding and measuring conditions of trust: Evolution of a conditions of trust inventory. *Journal of Management*, 17(3): 643–663.

Chen, C., Chen, Y., & Xin, 2004. Guanxi practices and trust in management: A procedural justice perspective. *Organization Science*, 15(2): 200–209.

Chen, X. P., & Chen, C. C. 2004. On the intricacies of the Chinese guanxi: A process model of guanxi development. *Asia Pacific Journal of Management*, 21(3): 305–324.

Chow, I. H., & Ng, I. 2004. The characteristics of Chinese personal ties (guanxi): Evidence from Hong Kong. *Organization Studies*, 25(7): 1075–1093.

Chua, R. Y. J., Ingram, P., & Morris, M. 2008. From the head and the heart: Locating cognition- and affect-based trust in managers' professional networks. *Academy of Management Journal*, 51(3): 436–452.

Coleman, J. 1990. *Foundation of social theory*. Cambridge, MA: Harvard University Press.

Cook, J., & Wall, T. 1980. New work attitude measures of trust, organizational commitment and personal need nonfulfillment. *Journal of Occupational Psychology*, 53(1): 39–52.

Cross, R., & Sproull, L. 2004. More than an answer: Information relationships for actionable knowledge. *Organization Science*, 15(4): 446–462.

Drolet, A. L., & Morris, M. W. 2000. Rapport in conflict resolution: Accounting for how face-to-face contact fosters mutual cooperation in mixed-motive conflicts. *Journal of Experimental Social Psychology*, 36(1): 26–50.

Farh, J., Tsui, A. S., Xin, K., & Cheng, B. 1998. The influence of relational demography and guanxi: The Chinese case. *Organization Science*, 9(4): 471–488.

Flynn, F. J. 2005. Identity orientations and forms of social exchange in organizations. *Academy of Management Review*, 30(4): 737–750.

Granovetter, M. 1973. The strength of weak ties. *American Journal of Sociology*, 78(6): 1360–1380.

Guthrie, D. 1998. The declining significance of *guanxi* in China's economic transition. *China Quarterly*, 154(3): 254–282.

Hausman, J. 1978. Specification tests in econometrics. *Econometrica*, 46(6): 1251–1271.

Hausman, J., Hall, B. H., & Griliches, Z. 1984. Econometric models for count data with an application to the patents–R&D relationship. *Econometrica*, 52(4): 909–938.

Ho, D. Y. F. 1976. On the concept of face. *American Journal of Sociology*, 81(4): 867–884.

Ho, D. Y. F. 1998. Interpersonal relationships and relationship dominance: An analysis based on methodological relationism. *Asian Journal of Social Psychology*, 1(1): 1–16.

Hoffman, D., Griffin, M., & Gavin, M. 2000. The application of hierarchical linear modeling to organizational research. In K. Klein & S. Kozlowski (Eds), *Multlilevel theory, research, and methods in organizations*: 467–511. San Francisco, CA: Jossey Bass.

Hofstede, G. 1980. *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage.

Hsu, F. L. K. 1953. *Americans and Chinese: Two ways of life*. New York: Abelard-Schuman.

Hsu, F. L. K. 1971. A hypothesis on kinship and culture. In F. L. K. Hsu (Ed.), *Kinship and culture*: 3–30. Chicago: Aldine.

Hung, C. F. 2004. Cultural influence on relationship cultivation strategies: Multinational companies in China. *Journal of Communication Management*, 8(3): 264–281.

Ingram, P., & Roberts, P. W. 2000. Friendships among competitors in the Sydney hotel industry. *The American Journal of Sociology*, 106(2): 387–423.

Janicik, G. A., & Larrick, R. P. 2005. Social network schemas and the learning of incomplete networks. *Journal of Personality and Social Psychology*, 88(2): 348–364.

Kao, J. 1993. The worldwide web of Chinese business. *Harvard Business Review*, 71(2): 24–36.

King, A. Y. 1991. Kuan-hsi and network building: A sociological interpretation. *Daedalus*, 120(2): 63–84.

Klein, K. J., Dansereau, F., & Hall, R. J. 1994. Levels issues in theory development, data collection, and analysis. *Academy of Management Review*, 19(2): 195–229.

Kramer, R. M. 1999. Trust and distrust in organizations: Emerging perspectives, enduring questions. *Annual Review of Psychology*, 50: 569–598.

Lai, G. 1995. Work and family roles and psychological well-being in urban China. *Journal of Health and Social Behavior*, 36(1): 11–37.

Lang, O. 1946. *Chinese family and society*. New Haven, CT: Yale University Press.

Levin, D. Z., & Cross, R. 2004. The strength of weak ties you can trust: The mediating role of trust in effective knowledge transfer. *Management Science*, 50(11): 1477–1490.

Lewicki, R. J., & Bunker, B. B. 1996. Developing and maintaining trust in work relationships. In R. M. Kramer & T. R. Tyler (Eds), *Trust in organizations: Frontiers of theory and research*: 114–139. Thousand Oaks, CA: Sage.

Lewis, J. D., & Weigert, A. 1985. Trust as a social reality. *Social Forces*, 63(4): 967–985.

Lin, N. 2001. Guanxi: A conceptual analysis. In A. So, N. Lin & D. Poston (Eds), *The Chinese triangle of mainland, Taiwan, and Hong Kong: Comparative institutional analysis*: 153–166. Westport, CT: Greenwood.

Markus, H. R., & Kitayama, S. 1991. Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98(2): 224–253.

Mayer, R. C., Davis, J. H., & Schoorman, F. D. 1995. An integrative model of organizational trust. *Academy of Management Review*, 20(3): 709–734.

McAllister, D. J. 1995. Affect- and cognition-based trust as foundations for interpersonal cooperation in organizations. *Academy of Management Journal*, 38(1): 24–59.

Morris, M. W., Podolny, J., & Sullivan, B. 2008. Culture and coworker relations: Interpersonal patterns in American,

Chinese, German, and Spanish divisions of a global retail bank. *Organization Science*, advance online publication 11 February. DOI: 10.1287/orsc.1070.0333.
Ng, I., & Chow, I. H. 2005. Does networking with colleagues matter in enhancing job performance? *Asia Pacific Journal of Management*, 22(4): 405–421.
Oyserman, D. 1993. The lens of personhood: Viewing the self and others in a multicultural society. *Journal of Personality and Social Psychology*, 65(5): 993–1009.
Oyserman, D., & Markus, H. R. 1993. The sociocultural self. In J. Suls (Ed.), *The self in social perspective*: 187–220. Hillsdale, NJ: Erlbaum.
Pearce, J. L., & Robinson, R. B. 2000. Cultivating guanxi as a foreign investor strategy. *Business Horizon*, 43(1): 31–38.
Peng, Y. 2004. Kinship networks and entrepreneurs in China's transitional economy. *The American Journal of Sociology*, 109(5): 1045–1074.
Rao, A. K., Pearce, J. L., & Xin, K. 2005. Governments, reciprocal exchange, and trust among business associates. *Journal of International Business Studies*, 36(1): 104–118.
Redding, G., & Wong, G. Y. Y. 1986. The psychology of Chinese organizational behavior. In M. H. Bond (Ed.), *The psychology of Chinese people*: 267–295. Hong Kong: Oxford University Press.
Rempel, J. K., Holmes, J. G., & Zanna, M. D. 1985. Trust in close relationships. *Journal of Personality and Social Psychology*, 49(1): 95–112.
Sahlins, M. D. 1972. *Stone age economics*. Chicago: Aldine-Atherton.
Sanchez-Burks, J. 2002. Protestant relational ideology and (in)attention to relational cues in work settings. *Journal of Personality and Social Psychology*, 83(4): 919–929.
Sanchez-Burks, J., Lee, F., Choi, I., Nisbett, R. E., Zhao, S., & Koo, J. 2003. Conversing across cultures: East–West communication styles in work and nonwork contexts. *Journal of Personality and Social Psychology*, 85(2): 363–372.
Silver, A. 1990. Friendship in commercial society: Eighteenth-century social theory and modern sociology. *American Journal of Sociology*, 95(6): 1474–1504.
Tong, C. K., & Yong, P. K. 1998. *Guanxi* bases, *Xinyong*, and Chinese business networks. *The British Journal of Sociology*, 49(1): 75–96.
Triandis, H. C. 1995. *Individualism and collectivism*. Boulder, CO: Westview Press.
Triandis, H. C. 2001. Individualism–collectivism and personality. *Journal of Personality*, 69(6): 907–924.
Trompenaars, A. 1994. *Riding the waves of culture: Understanding diversity in global business*. Burr Ridge, IL: Irwin.
Tsui, A., & Farh, J. L. 1997. Where guanxi matters: Relational demography and guanxi in the Chinese context. *Work Occupation*, 24(1): 56–79.
Tsui, A., Farh, L., & Xin, C. 2004. *Particularistic ties and structural holes in Chinese managerial networks*. Working paper, Arizona State University.
Vanhonacker, W. R. 2004. Guanxi networks in China: How to be the spider, not the fly. *The China Business Review*, May–June: 48–53.
Weber, M. 1904/1930. *Protestant ethic and the spirit of capitalism*. Winchester, MA: Allen & Unwin, Inc.
Wellman, B., Chen, W., & Dong, W. 2001. Networking guanxi. In T. Gold, D. Guthrie & D. Wank (Eds), *Social networks in China: Institutions, culture, and the changing nature of guanxi*: 221–241. Cambridge: Cambridge University Press.
Xiao, Z., & Tsui, A. S. 2007. When brokers may not work: The cultural contingency of social capital in Chinese high-tech firms. *Administrative Science Quarterly*, 52(1): 1–31.
Xin, K. R., & Pearce, J. L. 1996. Guanxi: Connections as substitutes for formal institutional support. *Academy of Management Journal*, 39(6): 1641–1658.
Yang, C. F. 1988. Familialism and development: An examination of the role of family in contemporary China mainland, Hong Kong, and Taiwan. In D. Sinha & H. S. R. Kao (Eds), *Social values and development: Asian perspectives*: 93–123. Thousand Oaks, CA: Sage.
Yang, H., Van de Vliert, E., & Shi, K. 2005. Siding in a workplace dispute in China: The impact of legitimacy, sanction, and guanxi. *International Journal of Cross Cultural Management*, 5(3): 329–347.
Yang, K. S. 1992. Chinese social orientation: From the social interaction perspective. In K. S. Yang & A. B. Yu (Eds), *Chinese psychology and behavior*: 87–142. Taipei, Taiwan: Laurel.
Yang, K. S. 1998. Familization, pan-familism, and organization management. In B.-S. Cheng, K.-L. Huang & C.-C. Kuo (Eds), *The management in Taiwan and China, Vol. 4: Chinese legacies and management in Taiwan and China*: 19–60. Taipei, Taiwan: Yuan-Liou Publishing.
Yang, M. M. 1994. *Gifts, favors, and banquets: The art of social relationships in China*. Ithaca, NY: Cornell University Press.
Yeung, I. Y. M., & Tung, R. L. 1996. Achieving business success in Confucian societies: The importance of guanxi (connections). *Organizational Dynamics*, 25(2): 54–65.
Zelizer, V. A. 2005. *The purchase of intimacy*. Princeton, NJ: Princeton University Press.
Zucker, L. G. 1986. Production of trust: Institutional sources of economic structure. In B. M. Staw & L. L. Cummings (Eds), *Research in organizational behavior*, vol. 8: 53–111. Greenwich, CT: JAI Press.

ABOUT THE AUTHORS

Roy Chua is an assistant professor at Harvard Business School. His research interests include interpersonal trust, social networks, choice, and creativity. His dissertation explores how people who give others autonomy and choice at work are perceived. He was born in Singapore and is a Singapore citizen. E-mail: rchua@hbs.edu.

Michael Morris is the Chavkin-Chang Professor of Leadership at Columbia Business School and a Professor of Psychology, Columbia University. He studies the influence of culture and identity on cognition and behavior as well as other aspects of decision-making, negotiations, and social networks. Michael received his PhD in Psychology from the University of Michigan. He was born in New York and is a citizen of the USA and Ireland. E-mail: mwm82@columbia.edu.

Paul Ingram is the Kravis Professor of Business at the Columbia Business School and the Faculty Director of the Columbia Senior Executive Program. He studies how social networks influence important outcomes for managers, companies, and countries. Paul received his PhD in Management from Cornell University. He was born in Canada and is a US citizen. E-mail: pi17@columbia.edu.

Accepted by Kwok Leung, Departmental Editor, 14 November 2007. This paper has been with the authors for two revisions.