

The Social Influence of Executive Hubris

Cross-cultural Comparison and Indigenous Factors

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Abstract:

- Executive hubris—an important psychological bias—affects the strategic decisions of a firm as well as their implementation. Yet executive hubris brought about by social influence in different cultural environments is not well understood.
- Anchored in the upper echelons theory and the cross-cultural management literature, this study investigated the social influence of executive hubris among peer executives in two different cultural contexts: China and the US.
- Using a large set of survey data on Chinese firms and a large archive of US firm data, we found that the social influence of executive hubris is stronger in the Chinese context than in the US. The social influence among Chinese executives tends to be moderated by their similarity in categorical factors indigenous to the Chinese context: executives who are managing state-owned firms or were politically appointed are more strongly influenced by each other than by those managing non-state-owned firms or were not politically appointed.
- We illustrate that cultural contexts give rise to differences in the social influence of executive hubris.

Keywords: Executive hubris · Social influence · Cross-cultural comparison · Indigenous management · Chinese and US firms

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Introduction

The upper echelons theory predicts that the characteristics of corporate executives can be influenced by “all potential environmental and organizational stimuli” (Finkelstein et al. 2009, p.45). Among all those executive characteristics, executive hubris, generally defined as an executive’s exaggerated self-confidence or pride (Hayward and Hambrick 1997; Hiller and Hambrick 2005), has attracted its fair share of attention (Hayward et al. 2006; Li and Tang 2010). While the theory implicitly assumes that executive hubris can be socially influenced in different ways depending on the social/cultural context, exactly how that happens has never been explored.

We test the upper echelons theory’s assumption that executive characteristics are subject to social stimuli (Hambrick and Mason 1984). Exploring the social influence of executive hubris is important because executive hubris has important implications for firm strategy and performance (Li and Tang 2010). Since the social context in which an individual is embedded influences how he/she behaves by providing stimuli to shape his/her thoughts and behavior (Bandura 1977; Festinger 1954; Salancik and Pfeffer 1978), it would be meaningful to establish in what manner and under what circumstances the emergence of executive hubris is driven by the contextual stimuli received. This study was designed to fulfill this goal.

This study integrates the upper echelons theory and the international management literature by presenting a culturally embedded social influence model of executive hubris. It is based on the presumption that social stimuli play an important role in influencing the collective sense-making of decision makers (Ashkanasy et al. 2000; Salancik and Pfeffer 1978). Social stimuli may play a more important role in a social context that emphasizes collectivism than in one that emphasizes individualism. Therefore, we predict in particular that an executive’s hubristic bias is subject to social stimuli (Chattopadhyay et al. 1999; Morland et al. 1996), the influence of which will be more salient in China, a traditionally collectivistic society, than in the US, where individuality is valued (Hofstede 1980; Parboteeah et al. 2005).

We further suggest that social influence varies across groups on the basis of certain social categories that are indigenous to the particular context. Members in the same social category see themselves as members of an in-group and others as members of an out-group (Turner 1975; Tajfel and Turner 1986). Executives are likely to be under the influence of peers in the same social category. This study continues along this line of inquiry by examining whether social categories, defined based on certain factors indigenous to the Chinese context, moderate the social influence of executive hubris.

This study contributes to the literature in the following respects. First, we revisit the upper echelons theory to examine the social influence of executive hubris. In Hambrick and Mason’s (1984) original framework, the characteristics of top executives are shaped by the social context in which the executives are embedded (Finkelstein et al. 2009). While the effects of executive- and firm-level factors on executive hubris have been extensively explored (Forbes 2005; Hayward and Hambrick 1997; Malmendier and Tate 2005), the impact of social contexts has not yet been considered empirically. A firm’s immediate external environment should certainly have an influence on an executive’s psychological bias (Hambrick and Mason 1984; Salancik and Pfeffer 1978). Conse-

quently, in examining the social influence of executive hubris, this study partly addresses a void in the literature.

Second, this research extends the study of executive hubris to international management by highlighting executives' cultural values. Researchers contend that cultural values play a central role in shaping the managerial view of the environment and appropriate strategic responses (Hambrick and Brandon 1988; Geletkanycz 1997). Consequently, they are posited to affect the extent to which social influence impacts the managerial bias of corporate executives. Prior research on executive hubris has paid little attention to the cross-cultural comparison. This study specifically investigates how the social influence of psychological bias among peer executives varies across social contexts characterized by distinct cultural values. We contribute to both the upper echelons theory and the international management research by presenting a culturally embedded model of the social influence of executive hubris.

This research also aims to contribute to the indigenous management research through analyzing peer groups in terms of social categorizing factors indigenous to the Chinese context. Indigenous research can be classified based on the nature of a local phenomenon and the theoretical perspective adopted (Li et al. 2012). Our approach fits into the category of "a comparative perspective with the potential to discover one or more novel constructs unique to a locality, and this type of research aims to modify and revise Western theories" (Li et al. 2012, p. 9). Our combination of the general propositions with the peculiarities of our empirical setting has provided us with an excellent opportunity to contribute to our understanding of the social influence of executive hubris in an emerging economy such as China's. This echoes the call for more contextualization research in the organizational management field (Tsui 2007).

To begin with, we provide the theoretical background and develop hypotheses related to the process through which hubris is socially influenced among executives. We then propose that this influence is more salient in China with its collectivistic culture than in the US with its individualistic culture. We further propose that the social influence of executive hubris in China may depend on certain indigenous factors categorizing peer executives in the Chinese context. Our hypotheses are tested using two large datasets describing executives of manufacturing firms in China and of public firms in general in the US. The implications for research in the upper echelons theory, international management, and indigenous management are discussed.

Theory and Hypothesis Development

Executive Hubris

Executive hubris is a managerial bias that causes one's own judgment to deviate from objective standards (Hayward and Hambrick 1997; Hayward et al. 2006; Hiller and Hambrick 2005). When an individual's confidence in the accuracy of his/her own predictions exceeds the actual accuracy of those predictions, he or she may be considered hubristic (Hilary and Menzly 2006; Klayman et al. 1999; Moore and Healy 2008; Simon and Houghton 2003). Hubris is often prominently exhibited among corporate executives (Hiller and Hambrick 2005).

Executive hubris is related to other managerial positive self-regard factors including overconfidence (Simon and Houghton 2003), optimism (Hmieleski and Baron 2009), and narcissism (Chatterjee and Hambrick 2007, 2011). The common theme of these factors resides in the basic, fundamental assessment an executive makes of him/herself, especially an overly positive one (Hiller and Hambrick 2005). But different from the other three factors, as suggested by Chatterjee and Hambrick (2007, p.357), hubris is a managerial bias induced by some combination of confidence-buoying stimuli and one's narcissistic tendencies, while lacking key elements of the narcissistic personality such as a sense of entitlement, a preoccupation with self, and a continuous need for affirmation and applause. To synthesize all related efforts, based on the fundamental work by Judge and his colleagues (Judge et al. 2002; Judge et al. 1997), Hiller and Hambrick (2005, p.306) proposed grouping all these dimensions of managerial bias under a single overarching conceptual umbrella known as "executive core self-evaluation (CSE)". The well-studied concept of executive hubris corresponds exactly to a hyper level of executive CSE.

Researchers have long investigated the potential consequences of executive hubris on firm decisions and outcomes, both conceptually and empirically. Their findings have generally shown that executive hubris may lead to more value-destroying M&A activities (Malmendier and Tate 2008), greater acquisition premiums (Hayward and Hambrick 1997), higher chances of venture failure (Hayward et al. 2006), poorer performance (Lowe and Ziedonis 2006), investment distortions (Malmendier and Tate 2005), excessive risk taking (Li and Tang 2010; Simon and Houghton 2003), and firm innovation (Tang et al. 2012). Most of these previous efforts have tended to emphasize the potential costs of executive hubris for firms.

Given its importance to firm decisions and outcomes, much effort has been expended to identify the important antecedents of executive hubris. Hayward and Hambrick (1997) showed that a history of superior firm performance, media praises and self-perceived importance usually leads to executive hubris. Stotz and von Nitzsch (2005) revealed that the "illusion of control" corresponds to the overconfidence phenomenon, while Durand (2003) demonstrated that heavy investment in dynamic resources, such as human resources, is an example of such an illusion. Forbes (2005) proposed that certain characteristics of the executives themselves, such as age and being the firm founder, can also lead to overconfidence. Malmendier and Tate (2005) suggested that having an abstract reference point can lead to hubris, and scholars have previously established that market uncertainty can generate such a reference point for executives (Alicke et al. 1995; Weinstein 1980). Hilary and Menzly (2006) concluded that superior prior performance can lead to overconfidence among decision makers. Billett and Qian (2008) posited that the self-attribution bias based on prior experience leads to executive hubris.

These previous endeavors have largely focused on individual- and firm-level antecedents, but have completely ignored the role of social contexts. It has been well-established that social information affects individual perceptions, attitudes, and behavior (Salancik and Pfeffer 1978). Also, as has been observed with the mass adoption or mass abandonment of strategic actions (Ahmadjian and Robinson 2001; Rao et al. 2001), an individual's mental characteristics can converge with those embedded in the same context (Chattopadhyay et al. 1999; Weick 1995). The levels of hubris of executives facing the same task environment are likely to be influenced by the same set of information or

stimuli from the environment. Therefore it is important to explore the social influence of executive hubris as one type of psychological bias.

The Social Influence of Executive Hubris

The idea that the contextual environment faced by executives can shape executive hubris is rooted in the social information processing (SIP) theory. The underlying premise of the SIP theory is that “individuals, as adaptive organisms, adapt attitudes, behavior, and beliefs to their social context and to the reality of their own past and present behavior and situation” (Salancik and Pfeffer 1978, p. 226). The SIP framework serves to draw a connection between the social environment and information processing in developing attitudes, behavior, and perceptions (Zalesny and Ford 1990). Individual attitudes or perceptions can be understood by examining the informational and social environment in which the individual is embedded (Pfeffer 1983). The SIP theory has been used to explain various work-related outcomes, including job satisfaction (Griffin 1983; O’Reilly and Caldwell 1985), procedural justice and distributive justice (Glodman 2001), and antisocial behavior (Robinson and O’Leary-Kelly 1998). Similarly, we predict that individual executives’ immediate task environments can shape their hubris levels.

As mentioned before, hubris has been suggested as a type of psychological bias (Luthans and Youssef 2007), and may arise from both the personality of the individual and the social stimuli at hand (Finkelstein et al. 2009; Hiller and Hambrick 2005). Importantly, hubris can be influenced by external contextual factors. For example, Hayward and Hambrick (1997) suggested that media praises may drive an executive to become more hubristic. According to the SIP theory, social information can affect the way individuals understand and shape their needs, values, and perceptions on the basis of their interactions with others. Hubris reflects how individuals evaluate themselves and the task environments in which they are embedded. We therefore predict that social information as a type of social stimuli affects the likelihood that an executive has an inflated ego. Following this logic, executives in the same social context exposed to the same set of social information should share identical levels of hubris.

The peer group of an executive is a social group consisting of other executives who do business and manage firms in the same task environment (Peteraf and Shanley 1997). Peer executives are embedded in the same context as the focal executive. Some key dimensions of the business environment, including industry and geographic boundaries, could serve to define peers (Romanelli and Khessina 2005). The social information available to all peer executives stems from the common task environment in which they find themselves. This helps to promote the exchange of common social information. Their collective interpretation of a particular social stimulus may enhance their shared understanding of this piece of common social information (Romanelli and Khessina 2005). This collective receiving and interpreting of common social information create an opportunity for the psychological bias, such as hubris, of the focal executive to be influenced by peer executives.

To illustrate this, consider the rising property prices in China. Despite the warnings of the central government, the media, and the analysts of overpricing or the imminent burst of property price bubbles in Chinese cities (*Daily Finance* 2010), property developers

do not seem to share such concerns. For instance, Zhi-qiang Ren, Chairman of the state-owned developer Hua Yuan Group, confidently predicted that “the Chinese real estate price will increase in the coming year, and any predication about the decline of housing price is nonsense”. This view was shared by many other executives of Chinese real estate firms, such as Shi Wang, Chairman of China Vanke Group, the largest residential property developer in China. Wang predicted that “the housing price in China will continue to rise for the next three years” (*Chinese Business Times* 2010). Such hubris shared by many Chinese real estate businessmen is engendered by the common social information they have received from their immediate task environment: low interest rates and increased bank lending, local government reliance on land sales for income (accounting for up to 50% of revenue), and limited access to foreign investments for Chinese citizens (*Xinhua* 2010).

To sum up, since peer executives are embedded in a common social context and their subjective interpretations of events are affected by the same salient and relevant social stimuli, we predict that the focal executive’s hubris state may be influenced by peer executives. Therefore, we hypothesize that:

Hypothesis 1a: The hubris level of a focal executive is positively associated with the hubris levels of those peer executives in the same task environment.

The above social influence process should vary across different social contexts characterized by distinct cultural values. We focus in particular on the individualism–collectivism cultural dimension described in Hofstede’s (1980) well-known scheme. Individualism vs. collectivism measures the degree to which a culture prefers autonomous vs. interdependent actions (Hofstede 1991; Triandis 1995). Individualism is defined as the extent to which personal interests are given greater importance than the needs of the group. Collectivism, on the other hand, is predominant when the demands and needs of the group take precedence over individual interests (Wagner 1995; Wagner and Moch 1986).

We note that there are other cultural dimensions in Hofstede’s (1980) typology. We focus on the individualism–collectivism dimension because this dimension significantly moderates how individuals’ affective or cognitive characteristics converge and thus is particularly relevant to our context. For instance, Ilies and colleagues (2007) found that the affective linkage between an individual and the other team members is stronger in a more collectivistic context. Importantly, prior research has suggested that this cultural dimension also affects corporate executives’ cognitive beliefs and attitudes. For example, using data from a survey of corporate executives in 20 countries, Geletkanycz (1997) found that the greater individuality is valued in an executive’s national culture, the greater the executive’s commitment to the status quo.

The extent to which an individual’s attitude is shaped by social influence depends on how much the social information is worth to the individual which in turn depends crucially on whether the individual is embedded in an individualistic or collectivistic culture. In a cultural context characterized by collectivism, the social information, which largely comes from others’ activities, tends to receive more attention from individual executives. This is because collectivistic cultures expect executives to consult their in-group thoroughly prior to making decisions (Triandis 1995). Accordingly, executives in these cultures tend to form beliefs and attitudes that are based on social consensus (Crossland and

Hambrick 2007; Smith et al. 1996). In contrast, in a cultural context where individualism is dominant, individual executives may not pay so much attention to social information as how others behave is considered less relevant to their own decision making. In individualistic cultures, executives will tend to have higher self-reliance, and will form beliefs and attitudes more unilaterally. Therefore, we anticipate that the social influence of executive hubris will be much stronger in a collectivistic culture than in an individualistic one.

We compare two social contexts with contrasting cultures along the individualism–collectivism dimension: China vs. the US. China is known to have a collectivistic culture, while the US is generally believed to have an individualistic one (Chen 1995; Earley 1989). Following the above logic, we anticipate that the social influence of executive hubris will be more salient among Chinese executives than among US executives.

Hypothesis 1b: The positive relationship between the hubris level of a focal executive and the hubris levels of peer executives is stronger in the Chinese context than in the US context.

The Factors Indigenous to the Chinese Context

As discussed earlier, the SIP theory suggests that individual executives' hubristic bias is shaped by the social information received from their task environments. However, the degree to which this bias is shaped by the social information is likely to vary. In the same social context, the social influence of executive hubris may still be subject to executive-level heterogeneity. In this section, as the social influence is proposed to be more salient in the Chinese context, we focus on certain factors indigenous to the Chinese context that may moderate the social influence. We attempt to do so by linking the SIP theory and the social identity perspective, and suggesting that one mechanism through which social information affects executive hubris is with the individual executives weighing information obtained from peers on the basis of how categorically similar in the Chinese context they are to one another.

Social information differs in terms of both salience (when individuals can be immediately aware of the information) and relevance (when individuals can evaluate the information as being more or less related to a specific attitude) (Salancik and Pfeffer 1978). Both the salience and relevance of social information that individual decision makers receive from the context they are facing affect their managerial bias. Salancik and Pfeffer (1978, p. 226) insightfully pointed out that the effect of social information depends on "any other fact that might affect the relative saliency of information relevant to the person deriving the attitude". When individuals perceive the social information as both salient and relevant, the information tends to be influential on their attitudes (Bhave et al. 2010; Salancik and Pfeffer 1978). We propose that due to their shared social identity, the social information received by peer executives belonging to the same social category tend to be perceived as both highly salient and relevant to them, and so the influence of this information on executive hubris is strengthened. The social influence of executive hubris thus becomes stronger when the focal executive is in the same social category as a subgroup of peer executives.

Social categorization plays an important role in the social identity perspective (Tajfel and Turner 1985). Individuals classify themselves and others into in-groups and out-groups based on certain social categorical criteria, in order to locate or define themselves in the social environment (Ashforth and Mael 1989). Peer executives can also be divided into subgroups according to relevant social categories, such as the size or performance of the firms the executives are running. According to the social identity perspective, people identify themselves more with those in similar social categories, and treat them as in-group members (Tajfel and Turner 1985). Peer executives come from heterogeneous subgroups, and the focal executive may be more or less proximate to different subgroup members in particular aspects. The relative influence of those subgroups on the focal executive may then depend on certain social categorizations. Social categories may stem from individual executives, firms, and contextual factors. For example, an executive of a better performing firm may identify more with peers running firms with similarly good performance. The executive of a large firm may identify more with those also running large firms. In other words, an executive will tend to identify more with peer executives in a similar category, and their attitudes or beliefs are then apt to converge (Tajfel and Turner 1985).

By applying the social identity perspective, we further propose that the social influence of executive hubris thus tends to be moderated by whether or not the focal executive is in the same social category as certain peer executives. Prior research has suggested that individuals' information use may be influenced by the social categorization process (Dahlin et al. 2005). The SIP theory further suggests that the impact of social information on decision makers' attitude convergence can depend on the salience and relevance of the social information at hand (Salancik and Pfeffer 1978). When the social information in question is salient or relevant to the issues at hand for the individuals, its influence is stronger. Members in the same social category will see each other as in-group members and consider each other more favorably (Howard and Rothbart 1980; Robbins and Krueger 2005). In contrast, they will consider those in a different social category from them as out-group members and treat them less favorably (Dovidio et al. 2009). This suggests that an individual will consider the social information shared with those in the same social category as more salient and relevant to his/her immediate situation. Therefore, the influence of social information for those executives in the same category is stronger. Based on these arguments, we propose that as the difference between the focal executive and his/her peers (in terms of the social categories they belong in) decreases, the social influence of executive hubris will strengthen.

We define subgroups of peers based on certain social categorization criteria that are indigenous to the Chinese context. The peculiar characteristics of the Chinese economy provide opportunities for social categorization. We in particular focus on two important factors: firm state-ownership and CEO political appointment. These two factors are certainly not unique to China, but given the rapidly rising influence of the Chinese economy in the world, we argue that these two factors are much more salient in the Chinese context with very important implications for firm strategy and performance. For instance, the state-owned enterprises (SOEs) in China are argued to "have legitimacy and receive support or protection from the government agencies that have founded them" (Li and Zhang

2007, p. 794). Similarly, CEO political appointment has also been shown to affect firms operating in the Chinese market significantly (Fan et al. 2007).

One prominent feature of the Chinese economy is the significant sector of SOEs. State ownership can serve as a criterion for defining peer groups. The executives of firms with the same type of ownership are more likely to treat each other as in-group members. In a transition economy such as China's, a different ownership structure represents different status levels and opportunities of access to critical resources (Konai 1980; Strange et al. 2009). Chinese SOEs may enjoy preferential treatment not only in input factors and product markets (Chang and Wang 1994; McMillan 1997), but also in the capital markets (Brandt and Li 2003). For example, stock market regulators may extend listing privileges to SOEs based on political rather than economic considerations (Wang et al. 2008). Chinese SOEs may also enjoy privileged access to bank loans and product markets which are less readily available to other types of firms, especially private firms (Dewatripont and Maskin 1995). Thus state ownership is likely to form a basis for social categorization and hubris level would tend to converge among executives of SOEs. For example, again in the Chinese real estate market, the excessive credit created by banks is one of the leading causes of the property price bubble. Most of the Chinese banks are state-owned, and their executives are highly likely to identify with each other through the Communist Party or industry association channels. Such identification tends to facilitate the formation of a common hubristic attitude toward the real estate market (FTChinese 2011).

Hypothesis 2a: In the Chinese context, since executives of SOEs tend to identify more with each other than with those managing firms with a different type of ownership structure, the social influence of executive hubris among this group of executives is stronger.

In China, the government continues to play an active role in resource allocation. So an executive's political connections help determine the firm's access to resources. This is true not only for state-owned firms (Liu 2006; Luo et al. 2001), but also for firms with other types of ownership. One salient indicator of an executive's political connections is whether or not he/she was politically appointed by the government (Fan et al. 2007). A typical example of a politically appointed executive in a non-SOE would be the executive of a township or village enterprise appointed by the local branch of the Communist Party to represent the local government. Political appointments are specifically designed to ensure state control and compliance with government policies (Faccio 2006; Fan et al. 2007; Walder 1995). It is normally easier for an executive who was politically appointed to build up political ties with important government agencies (Faccio 2006). In China, as in other emerging economies, political ties are considered a type of social capital that allows firms to secure access to key resources more easily (Hillman et al. 1999). Politically appointed executives should have more political ties, which should give them access to resources beneficial to firm performance. Following this logic, an executive should identify more with peers who are similarly appointed, politically or otherwise.

Hypothesis 2b: In the Chinese context, since politically appointed executives tend to identify more with each other than with those who were not politically appointed, the social influence of executive hubris among this group of executives is stronger.

Methods

Data

We used two datasets, with distinct contexts, data collection methods, and measures of executive hubris, to test our predictions. This way, a cross-cultural comparison is possible, and the generalizability and robustness of our findings are enhanced.

The first set of data was extracted from a cross-sectional survey conducted in China. With the purpose of understanding the problems firms encounter as they learn to face market competition and technological innovation during China's transition to a market-driven economy, China's government-funded Entrepreneurs Survey System regularly surveys Chinese CEOs. The firms led by the CEOs surveyed constitute a proportional sample based on industry, location, ownership, and size. This study uses data from the survey conducted in 2000. In the survey, a questionnaire was mailed out to each of 15,000 firms, and 5,075 usable responses were received (out of a total of 5,126 responses). The survey agent reported no significant industry, location, ownership or size differences between respondents and non-respondents. To maintain the comparability of the industry backgrounds while avoiding excessive loss of generality, this study focuses on the 3,073 firms in manufacturing industries surveyed at the time, which made up the majority of the surveyed firms (about 60.55% of the full sample). After excluding those firms for which data were missing, the final sample contained between 2,978 and 2,096 observations depending on the model tested. Unpaired t-tests indicated no significant differences in executive hubris and firm size between firms included in the analyses and those excluded (about 200 firms).

The second set of data is based on a sample of US publicly listed firms in multiple industries. The sample was constructed from the intersection of the COMPUSTAT database and the First Call Company Issued Guidelines database over the period 1993–2010. After deleting the firms for which data were missing, the final sample contained between 18,337 and 13,261 firm-year observations depending on the model tested.

Chinese Executive Data

Executive Hubris Measure

For the dataset of Chinese executives, following Li and Tang (2010), the deviation of a CEO's subjective evaluation (i.e., perception) of his/her firm's performance from its actual performance was used to measure executive hubris. In the survey, each CEO was asked to evaluate his/her firm's most recent financial performance (the preceding half year in our context), on a five-point scale ("1" for a large loss and "5" for a large profit).

The actual performance was measured by return on sales (ROS) for that same half year, as reported by each CEO in the survey. Since both the subjectively anchored evaluation and the concretely anchored one depended strongly on the industry, both values were adjusted by subtracting from them the respective mean values of all sampled firms in the same industry. To make the two measures comparable, both the subjective evaluation and the ROS were converted to z-scores. Executive hubris was captured by the z-score of the subjective evaluation minus the z-score of the ROS, and the greater the difference, the greater the executive hubris.

The Hubris Level of Peer Executives

The *hubris level of peer executives* was measured by the average hubris scores of peer CEOs. A peer was defined as the CEO of a firm in either the same primary industry, the same geographic location (province), or both as the focal CEO's firm. Both industry and geographic location have been suggested as important criteria in determining social categories (Romanelli and Khessina 2005). The formula we used to determine the hubris level of peers was

$$\frac{\sum_{i=1}^n H_i - H_j}{n - 1},$$

$i \neq j$, where H_i denotes the hubris scores of all sampled CEOs in a cell of industry, location, or a combination of the two, H_j is the hubris score of the focal CEO j , and n is the number of sample firms in the cell.

In analyzing group differences, we define peers as those whose firms are operating in the same industry as well as the same location as this approach is more fine-grained.

The two moderating factors indigenous to the Chinese context, *state ownership* and *executive political appointment*, were represented by two dummy variables. About 46% of all firms sampled were state-owned and about 48% of all CEOs sampled were politically appointed. Firms controlled by the state or having a politically appointed CEO were considered members of one group, while the remaining firms and CEOs comprised the other group. The *hubris level of a peer executive in the same subgroup* was thus measured by the average hubris score of the CEOs in that subgroup based on different social categorization criteria.

Control Variables

Certain potential individual- and firm-level antecedents of executive hubris were controlled for in the models. We controlled for CEO age and education level. CEO age was reported in the survey. CEO education was measured by a categorical variable ranging from 1 to 6 indicating an ascending level of formal education. How powerful a CEO is within the firm may also influence his/her self-evaluation (Hayward and Hambrick 1997), so a dummy variable indicating whether the CEO also served as the chairman of the board (*board chair-CEO duality*) was included. At the firm-level, we controlled for firm age, measured as the time since the year the firm was publicly listed. Firm size was measured

by the logarithm of the firm's total assets. We controlled for firm slack, measured as the ratio of debt to equity, reverse coded, since a high level of debt lowers a firm's borrowing capacity (Bourgeois 1981; Singh 1986). Each firm's training costs (HR investment) and R&D intensity were included as indicators of the firm's intangible resources, which may affect a CEO's perception of control (Durand 2003). R&D intensity was computed as the ratio of R&D expenditure to sales. HR investment was represented by the ratio of training expenditures to sales.

US Executive Data

Executive Hubris Measure

We improve upon the measure of executive hubris in the Chinese executive data by taking into consideration the fact that the nature of being hubristic is to predict firm performance in an extremely self-confident manner. Therefore, we measured executive hubris based on management forecast error. Previous research has used management forecast data to indicate managerial self-potency (Ben-David et al. 2006). Top executives (normally CEOs who tend to be well-informed by their CFOs) in firms can make forecasts about their firms' future earnings performance. These forecasts reflect their subjective interpretations of their firms' situations. But the actual earnings performance may be different. Hubris describes the extent to which one's subjective judgment is positively biased (Kahneman and Tversky 1995). The more positive the management forecast is in comparison with the firm's actual performance, the more hubristic the executives are said to be. Following this logic, executive hubris was measured by the deviation of the earnings forecast made by the firm's top executives before earnings announcement from the actual earnings performance, scaled by the absolute value of earnings performance. That is, executive hubris = (earnings forecast - actual earnings) / the absolute value of the actual earnings. If an executive made multiple earnings forecasts in one year, we take the average of those forecasts. We collected management earnings forecast and actual earnings data from the First Call Company Issued Guidelines database.

The Hubris Levels of Peer Executives

With the above new measure of executive hubris, we operationalized *the hubris levels of peer executives* in the same way as we did before. A peer was defined as the executive of a firm in either the same primary industry (SIC 2-digit), the same geographic location (state), or both as the focal executive's firm. In the analyses, we also tried one-lagged peer hubris variables. The predictors and the results were consistent with those presented here.

Control Variables

We controlled for firm age, firm size, a firm's R&D intensity, and firm slack, all in ways similar to what we did before. We also collected individual-level controls including CEO

duality and CEO tenure from the IRRC (Investor Responsibility Research Center) board composition database. However, if we include the two new variables, after the intersection with the data we have, the sample size would drop dramatically to about half the original size. We checked the results with the two additional variables and they were generally consistent with the earlier ones. Since the inclusion of the two new variables doesn't provide additional benefits but instead leads to a dramatic drop in the sample size, we excluded them from the final analyses.

Analytical Models

For analyzing the Chinese executive data, we adopted the ordinary least square (OLS) regressions. For analyzing the US executive data, as the data constitute a set of unbalanced panel data, and to control for unobservable firm heterogeneity, we estimated our models using a panel linear regression with firm fixed effects. Formally, the model can be formulated as $y_{i,t} = \beta_0 + \beta_1 x_{it} + \alpha_i + \mu_{it}$, where α_i is referred to as a fixed effect (Wooldridge 2002) that captures all unobserved, time-constant factors that affect $y_{i,t}$. As the US executive data cover a wide array of industries, and executives' predictions of firm performance may be subject to the influence of industries, we calculated the robust standard errors by clustering them at the industry level (the 2-digit SIC code).

Results

Tables 1 and 2 present descriptive statistics and correlations for the variables for the two datasets. The correlations do not reveal any serious multicollinearity, showing mean variance inflation factors of 2.40 and 1.10 for the Chinese executive data and the US executive data respectively.

Models 1–3 in Table 3 present the main effect of peer executive hubris on the focal CEO's hubris level in the Chinese context.¹ Model 1 includes the hubris levels of peer executives whose firms are defined as being in the same industry. The coefficient is positive and significant ($p < 0.001$). Model 2 includes the hubris levels of peers whose firms are defined as being in the same geographic location. The coefficient is again positive and significant ($p < 0.001$). Model 3 includes the hubris levels of peers whose firms are defined as being in the same industry as well as the same location (industry by location). Once again, the coefficient is positive and significant ($p < 0.001$). All these results render support to Hypothesis 1a.

Table 4 presents the results for the US executive data. Through Models 4–6, we found that the hubris levels of peer executives are not significantly related to the hubris of the focal executive. This finding suggests that the social influence of executive hubris in the US context is not as salient as it may be in the Chinese context. Therefore, Hypothesis 1b is also supported.

Table 5 presents the results on the moderating effects of categorical factors indigenous to the Chinese context. Model 7 includes the hubris levels of peer CEOs of firms categorized by the type of ownership. The coefficients of both "state-owned" and "non-state-

Table 1: Descriptive statistics and correlation of variables (Chinese executive data)

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Executive hubris	-0.00	1.22													
2. Peer hubris (industry * location)	0.01	0.70	0.07												
3. Peer hubris (industry)	-0.00	0.16	0.13	0.22											
4. Peer hubris (location)	-0.00	0.21	0.12	0.30	0.06										
5. Executive age	47.07	9.01	0.04	0.01	-0.01	0.01									
6. Executive education	3.28	0.93	-0.01	-0.04	-0.02	-0.09	-0.12								
7. Firm age	25.59	17.54	-0.08	-0.04	-0.03	-0.14	0.07	0.11							
8. Firm size	8.12	3.05	0.03	-0.01	-0.01	-0.01	0.08	0.24	0.11						
9. Firm slack	0.47	0.43	0.13	0.02	-0.02	0.07	0.01	-0.05	-0.17	-0.21					
10. R&D intensity	3.42	7.09	-0.03	-0.01	-0.02	0.01	0.00	-0.03	-0.04	-0.03	0.06				
11. HR expenditure	1.33	3.92	-0.04	-0.02	-0.01	0.01	-0.03	-0.05	-0.04	-0.05	0.06	0.54			
12. CEO duality	0.37	0.48	0.07	0.03	0.05	0.08	-0.01	-0.06	-0.04	-0.01	0.02	0.01	-0.00		
13. State ownership	0.46	0.50	-0.09	-0.09	-0.05	-0.20	0.05	0.24	0.41	0.19	-0.18	-0.07	-0.11	-0.18	
14. Political appointment	0.48	0.50	-0.05	-0.10	-0.04	-0.12	0.08	0.20	0.29	0.18	-0.13	-0.11	-0.11	-0.24	0.49

N=2812; correlation coefficients with a magnitude greater than 0.04 are significant at the $p < 0.05$ level

Table 2: Descriptive statistics and correlation of variables (US executive data)

Variable	Mean	S.D.	1	2	3	4	5	6	7
1. Executive hubris	0.12	0.77							
2. Peer hubris (industry * location)	0.11	0.48	0.01						
3. Peer hubris (industry)	0.12	0.21	0.04	0.33					
4. Peer hubris (location)	0.12	0.16	0.03	0.25	0.11				
5. Firm age	7.36	4.09	-0.01	-0.04	-0.08	-0.10			
6. Firm size	6.75	1.88	-0.01	0.00	0.00	-0.03	0.20		
7. Firm slack	0.37	1.16	-0.04	-0.03	-0.08	-0.03	-0.00	-0.25	
8. R&D intensity	0.07	0.37	-0.04	-0.02	-0.03	-0.01	-0.05	-0.14	0.07

N=13,760; correlation coefficients with a magnitude greater than 0.02 are significant at the $p<0.05$ level

owned” peers are positive and significant ($p<0.001$). Model 8 supports Hypothesis 2a. The coefficient of the term representing the interaction of the hubris levels of CEOs of state-owned firms with the type of ownership of a focal firm is positive and significant ($p<0.001$), while that representing the interaction involving the hubris levels of CEOs of non-state-owned firms is negative and significant ($p<0.001$). Model 9 includes instead the hubris levels of peers categorized by political appointment. The coefficients of the terms representing both politically appointed and non-politically appointed peers are positive and significant ($p<0.001$). Model 10 supports Hypothesis 2b: the coefficient of the interaction of the hubris levels of politically appointed CEOs with the status, be it politically appointed or non-politically appointed, of a focal CEO is positive and significant ($p<0.001$), while that representing the interaction involving the hubris of non-politically appointed CEOs is negative and significant ($p<0.001$). It is important to note that the high correlations between the moderators and their component variables could introduce spurious findings into the models (Wooldridge 2002). To account for this potential problem, we repeated the interaction tests by mean-centering the component variables in the interaction terms (Aiken and West 1991). The results were consistent with the ones presented here.²

Discussion

Because top executives’ cognitive characteristics can serve as a filter to screen environmental stimuli (Hambrick and Mason 1984), understanding how the psychological characteristics of top executives are influenced by contextual factors should be a priority for scholars interested in further developing the upper echelons theory. This study sheds light on the social influence of executive hubris by incorporating cultural contexts, or more specifically the individualism–collectivism dimension (Hofstede 1980; Triandis 1995). Our results demonstrate the social influence of executive hubris: the hubris level of a focal executive tends to be positively correlated with the hubris levels of his/her peers.

Table 3: OLS estimates of Chinese executive hubris (main effect)

Variable	Model 1	Model 2	Model 3
CEO age	0.006* (0.003)	0.005* (0.003)	0.006* (0.003)
CEO education	0.002 (0.025)	0.006 (0.025)	0.002 (0.026)
CEO chair-board duality (yes=1)	0.120* (0.047)	0.122* (0.047)	0.137** (0.049)
Firm age	-0.003* (0.001)	-0.003* (0.001)	-0.003* (0.001)
Firm size	0.035*** (0.008)	0.033*** (0.008)	0.032*** (0.009)
Firm slack resources	0.387*** (0.053)	0.371*** (0.053)	0.377*** (0.057)
Firm R&D intensity	-0.005 (0.004)	-0.005 (0.004)	-0.004 (0.004)
Firm HR investment	-0.013 (0.007)	-0.012 (0.007)	-0.012 (0.007)
State ownership (yes=1)	-0.173** (0.054)	-0.148** (0.055)	-0.162** (0.057)
Political appointment (yes=1)	0.038 (0.052)	0.036 (0.052)	0.028 (0.055)
Peer hubris (industry)	0.974*** (0.141)		
Peer hubris (location)		0.548*** (0.108)	
Peer hubris (industry by location)			0.112*** (0.033)
Constant	-0.613*** (0.164)	-0.611*** (0.164)	-0.593*** (0.172)
N	2978	2978	2812
F-Value	15.61***	13.48***	10.87***
Adj. R ²	0.051	0.044	0.037

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; two-tailed test

The social influence tends to be stronger in a cultural context characterized by collectivism, for example China. We further found that the level of influence also depends on the similarity between the focal executive and his/her peers in terms of some categorical factors indigenous to the Chinese context: the state ownership of the firm and whether the CEO was politically appointed. The findings have considerable theoretical implications for future research in the upper echelons theory, cross-cultural management, and the broader strategy area.

It should be noted that the two analyses (on the US and China) conducted in this study are not entirely comparable, due to the significant differences in empirical context, dataset, and measurement method. Therefore our findings should be considered as tentative in

Table 4: Firm fixed-effect estimates of US executive hubris (main effect)

Variable	Model 4	Model 5	Model 6
Firm age	-0.009 (0.005)	-0.007 (0.005)	-0.008 (0.006)
Firm size	0.057* (0.027)	0.057* (0.028)	0.057 (0.035)
Firm slack resources	-0.013 (0.008)	-0.014 (0.009)	0.0003 (0.009)
Firm R&D intensity	0.041 (0.027)	0.041 (0.027)	0.039 (0.028)
Year dummies	Included	Included	Included
Peer hubris (industry)	0.028 (0.046)		
Peer hubris (location)		0.001 (0.040)	
Peer hubris (industry by location)			0.009 (0.016)
Constant	-0.109 (0.156)	-0.102 (0.168)	-0.081 (0.219)
N	18938	18942	13760
F-Value	6.19***	6.20***	10.27***

Standard errors clustered at industry-level (two-digit SIC)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; two-tailed test

nature. However, we do believe this study paves the way for future research on the cross-cultural social influence of managerial bias.³

A major implication of this study is that cultural contexts give rise to differences in the social influence of executive hubris. Executive hubris, as a type of managerial bias, is widely recognized as an important psychological characteristic with prominent strategic implications (Hayward and Hambrick 1997; Hiller and Hambrick 2005). Complementing those recent efforts exploring the sources of executive hubris (e.g., Billett and Qian 2008; Forbes 2005), this study first set out to examine the social influence of executive hubris in two cultural contexts: China and the US. We offer evidence in support of the view that cultural values help shape the attitudes top executives bring to their roles as organization leaders and strategic decision-makers (Hambrick and Mason 1984; Schneider 1989). The social influence of executive hubris seems to be stronger in China, a collectivistic culture, than in the US, an individualistic culture.

The findings on the social influence of executive hubris suggest the need for more indigenous research on the role of contextual factors in affecting the adoption of socially illegitimate beliefs. Indeed, modesty and humility are traditionally valued in Chinese societies (Bond et al. 1982; White and Chan 1983). In contrast, hubris and arrogance, especially in publicly visible individuals such as the executives in our study, are generally frowned upon (*Xinhua* 2008). Nevertheless, our study suggests that in China, a country that emphasizes collectivism, when peers of the focal individual are hubristic, it becomes that much more likely for the focal individual to also be hubristic. An interesting paradox

Table 5: OLS estimates of Chinese executive hubris (moderating effects of indigenous factors)

Variable	Model 7	Model 8	Model 9	Model 10
CEO age	0.005 (0.003)	0.004 (0.003)	0.005 (0.003)	0.004 (0.002)
CEO education	-0.009 (0.029)	0.004 (0.027)	0.004 (0.025)	0.019 (0.023)
CEO chair-board duality (yes=1)	0.176** (0.054)	0.135** (0.051)	0.117* (0.047)	0.069 (0.042)
Firm age	-0.003* (0.002)	-0.002 (0.001)	-0.002 (0.001)	-0.003* (0.001)
Firm size	0.033** (0.010)	0.027** (0.009)	0.023** (0.009)	0.016* (0.008)
Firm slack resources	0.479*** (0.067)	0.429*** (0.063)	0.358*** (0.055)	0.257*** (0.050)
Firm R&D intensity	-0.002 (0.004)	-0.003 (0.004)	-0.004 (0.004)	-0.002 (0.003)
Firm HR investment	-0.007 (0.007)	-0.005 (0.007)	-0.010 (0.007)	-0.009 (0.006)
State ownership (yes=1)	-0.156* (0.063)	-0.102 (0.059)	-0.116* (0.055)	-0.082 (0.049)
Political appointment (yes=1)	0.073 (0.060)	0.053 (0.057)	0.096 (0.052)	0.064 (0.047)
State-owned peer hubris	0.143*** (0.012)	0.005 (0.021)		
Non-state-owned peer hubris	0.455*** (0.034)	0.972*** (0.047)		
State-owned peer hubris * state ownership		0.201*** (0.025)		
Non-state-owned peer hubris * state ownership		-0.975*** (0.065)		
Politically-appointed peer hubris			0.452*** (0.030)	-0.002 (0.037)
Non-politically-appointed peer hubris			0.441*** (0.029)	0.967*** (0.037)
Politically-appointed peer hubris * political appointment				0.970*** (0.055)
Non-politically-appointed peer hubris * political appointment				-0.970*** (0.051)
Constant		-0.667*** (0.180)	-0.555** (0.166)	-0.449** (0.149)
N	2096	2096	2467	2467
F-Value	39.43***	57.67***	53.42***	100.63***
Adj. R ²	0.180	0.275	0.203	0.361

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; two-tailed test

thus emerges: On the one hand, the Chinese culture is against executive hubris; but on the other hand, the collectivism embedded in this culture promotes the social influence of hubris. To pursue research in this direction will definitely require more theory-building efforts by indigenous management researchers.

This study has important implications for practicing managers as well. Hubris can hurt an executive's firm and subsequently his/her career (Hayward 2007; Hayward et al. 2006). An effective executive must walk a fine line between being confident and misjudging which sometimes constitutes hubris, and be cautious about the social factors influencing hubris. This makes it critical for top managers to choose the right role models to identify with. It is also important for multinational firms to understand that the social influence of managerial bias may be subject to the local cultural environment.

Our results should be interpreted with caution however. First, the operationalization of executive hubris used in both datasets needs to be strengthened in future research. Previous research has relied on more distal proxies such as media praise or self-importance (Hayward and Hambrick 1997; Malmendier and Tate 2005). The current study relies instead on executives' subjective evaluation or forecast of firm performance relative to the objective performance to measure executive hubris. We acknowledge that the appropriateness of the executive hubris measures is debatable. For example, executives may benchmark firm performance against a market average, an industry average, a historical average, or an absolute level, which would render our measure inappropriate. Further, it is important to note that executives assess relative—instead of absolute—financial performance, and the social comparison may play a role here: a downward comparison induces the executive to think positively of his/her company's performance. The current study indeed has not incorporated all of these possibilities in generating the executive hubris measure. Future research can better assess this executive psychological bias by using more direct psychometric tools, such as hyper core self-evaluation (Hiller and Hambrick 2005).

The other reason why our results should be interpreted with caution is that the Chinese executive data used in this study were cross-sectional in nature. This makes it impossible to infer causality. Indeed we have claimed an association relationship rather than causality. It would however be interesting to explore how an executive's hubris might influence his/her peers rather than the other way around. The US executive data, which are longitudinal in nature, may partially relieve this concern. Single-source, self-reporting bias is another potential concern with the Chinese executive data, though it may not be too serious for several reasons. First, apart from the question soliciting the executive's personal evaluation of the firm's prior performance, all other questions solicited mostly factual information about the firm. This makes the data less susceptible to common method bias (Doty and Glick 1998). Second, executive hubris was measured not only by a subjectively anchored evaluation, but also by an objectively anchored evaluation—the firm's ROS. The average ROS for the sample firms in each industry was significantly correlated with the relevant industry data reported in the *China Statistics Yearbook* ($\gamma=0.41$, $p<0.05$), demonstrating to some extent that the information on ROS was reasonably reliable. Finally, the significance of such interactions is unlikely to be an artifact of the single-informant method, as the respondents were less likely to have consciously fabricated moderated relationships when responding to the survey (Doty and Glick 1998).

Of course, there are many other potential influences on executive hubris which this study has not been able to incorporate. For example, the praising of an executive by the media has been suggested in previous work as a potentially important factor leading to overconfidence or hubris (Hayward and Hambrick 1997). With the available data, the current study was not in a position to investigate every such possibility. Future research should consider the role of other factors not yet addressed, including perhaps the executive's personality, the corporate governance structure, the internal cultural influences, the regulatory context and external environmental uncertainties (Ashkanasy et al. 2000; Hitt et al. 2006; Dhanaraj and Beamish 2009). Similarly, the current research only considers one particular cultural dimension: individualism–collectivism. Future research should also explore the potential role of other cultural dimensions, such as power distance, uncertainty avoidance, and masculinity-femininity (Hofstede 1980).

On a final note, even though the Sino-US cross-cultural context serves as an appropriate experimental setting for testing the generalizability of some of the theoretical constructs and propositions developed in the Western context, such as the concept of executive hubris, explicating the distinct role of social influence in individualistic or collectivistic societies will require more cross-cultural studies with the upper echelons theory in mind. For instance, future research can consider replicating and extending our findings using the East European countries as a comparative context.

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Endnotes

- 1 We note that in Table 3, state ownership has a negative and significant main effect on executive hubris ($p < 0.01$). This suggests that simply being an executive of a state-owned firm does not necessarily lead to hubris. In many cases, holding such a position may even reduce the CEO's hubris level. This does not contradict the moderating effect of state ownership, which implies that the CEO of a state-owned firm is more likely influenced by those CEOs who are also running state-owned firms, leading to a convergence of hubris among this group of CEOs. To further explore the main effect of ownership on executive hubris, in a supplementary analysis, we included a dummy variable indicating whether the CEO is running a private firm, and the coefficient is positive and significant ($p < 0.05$). This may suggest that in Chinese private businesses, hubris can emerge due to family elements (Forbes 2005).
- 2 We thank one anonymous reviewer for this valuable suggestion.
- 3 We thank one anonymous reviewer for pointing out this important issue.

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