

**Business Owners' Cultural Orientations: Conceptualization, Measurement,
and Implications for Business Success in China and Germany**

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1. Introduction

This dissertation comprises three studies of business owners' cultural orientations.¹ They are presented in Chapters 2, 3, and 4. An introduction to the three studies is given in Chapter 1, and an overall discussion of them is provided in Chapter 5.

1.1. Research Project

The three studies comprised in this dissertation were conducted within the research project 'Psychological Factors of Entrepreneurial Success in China and Germany'. Supervised by Prof. Dr. Zhong-Ming Wang from the University of Zhejiang and Prof. Dr. Michael Frese from the University of Giessen, the research project was carried out by Chinese and German graduates and postgraduates of psychology and management. It was funded by the Chinese National Science Foundation and the German Research Foundation. Consisting of two parts (T1 and T2), the research project was longitudinal in design. It started in January 2004 and will end in March 2008.

As a framework for the research project, we used a revised version of the 'Giessen-Amsterdam Model of Entrepreneurial Success' by Frese and Wang (2003, 2005), which builds on the original version by Rauch and Frese (2000). The model assumes that actions, which are mainly influenced by visions, goals, and strategies, mediate the relationships between personality, human capital, and environment on the one hand and business success on the other hand (Frese & Wang, 2003, 2005). We studied the concepts included in the model in samples of Chinese and German owners. Both at T1 and T2, we interviewed the owners and asked them as well as up to three of their employees to complete questionnaires. Among other things, the interview schemes contained questions regarding the owners' actions, their visions, goals, and strategies, and their objective business success, whereas the questionnaires contained measures of the owners' personality and human capital, the environment their businesses operated in, and their subjective business success. Further, the model assumes that actions, visions, goals, and strategies, as well as personality, human capital, environment, and business success are influenced by culture (Frese & Wang, 2003, 2005). Studying the con-

¹ Business owners are defined as individuals who own and manage their businesses (Carland, Hoy, Boulton, & Carland, 1984). For simplification, they are referred to as 'owners' in the following.

cepts included in the model in two cultures as different as China and Germany enabled us to explore this influence.

According to the Global Leadership and Organizational Behavior Effectiveness (GLOBE) Study (House & Javidan, 2004), which introduced nine cultural dimensions and measured them in terms of practices and values, China and (Western) Germany differ in six of the nine cultural dimensions, measured in terms of practices: China is higher on institutional collectivism (Gelfand, Bhawuk, Nishii, & Bechthold, 2004), in-group collectivism (Gelfand et al., 2004), humane orientation (Kabasakal & Bodur, 2004), and performance orientation (Javidan, 2004), whereas Germany is higher on assertiveness (Den Hartog, 2004) and future orientation (Ashkanasy, Gupta, Mayfield, & Trevor-Roberts, 2004). This means that there is more “collective distribution of resources and collective action” (institutional collectivism), more “loyalty and cohesiveness” (in-group collectivism), more fairness, altruism, generosity, care, and kindness (humane orientation), and more striving for “performance improvement and excellence” (performance orientation) in China, whereas there is more confrontation and aggressiveness (assertiveness) and more “delaying gratification, planning, and investing in the future” (future orientation) in Germany (Javidan, House, & Dorfman, 2004, p. 30).²

1.2. Dissertation

Culture is manifested in practices and values of societies and organizations (Erez & Gati, 2004; House & Javidan, 2004). Cultural orientations are manifested in practices and values of individuals (Chirkov, Ryan, Kim, & Kaplan, 2003; Maznevski, DiStefano, Gomez, Noorderhaven, & Wu, 2002). The focus in entrepreneurship research has been on culture (Freytag & Thurik, 2007; George & Zahra, 2002). The focus of the three studies comprised in this dissertation is on cultural orientations. The first study focuses on the conceptualization and measurement of owners’ cultural orientations, whereas the second and the third study focus on the implications of owners’ cultural orientations for business success. The three studies were conducted to provide evidence on whether owners’ cultural orientations are useful concepts for entrepreneurship research.

² China and Germany do not differ in uncertainty avoidance (Sully De Luque & Javidan, 2004), power distance (Carl, Gupta, & Javidan, 2004), and gender egalitarianism (Emrich, Denmark, & Den Hartog, 2004). This means that there is as much reliance on “social norms, rules, and procedures” to prevent incertitude (uncertainty avoidance), as much acceptance of power being distributed unequally (power distance), and as much promotion of gender equality (gender egalitarianism) in China as in Germany (Javidan et al., 2004, p. 30).

1.2.1. First Study

The first study focuses on the conceptualization and measurement of owners' cultural orientations. It is cross-sectional in design and was conducted in China and Germany.

We argued that many approaches to cross-cultural measurement in entrepreneurship research have been flawed and that there is a need for scales measuring owners' cultural orientations at the individual level. We conceptualized owners' cultural orientations as manifested in the practices and values owners use in their businesses. However, we considered practices to be more relevant for studying owners than values because practices are related to actions (Frese, 2006). Owners' practices substantially influence the development of organizational cultures (Schein, 2004). We developed scales measuring cultural orientations that refer to cultural dimensions introduced by the GLOBE Study (House & Javidan, 2004). We adapted the definitions given by Javidan et al. (2004, p. 30) to the practices owners use in their businesses: *Uncertainty avoidance* implies that owners support reliance on "social norms, rules, and procedures" to prevent incertitude. *Power distance* means that owners promote acceptance of power being distributed unequally. *Collectivism* signifies that owners foster "collective distribution of resources and collective action" (*institutional collectivism*) as well as "loyalty and cohesiveness" (*in-group collectivism*). *Assertiveness* implies that owners support confrontation and aggressiveness. *Future orientation* signifies that owners foster "delaying gratification, planning, and investing in the future". *Humane orientation* means that owners promote fairness, altruism, generosity, care, and kindness. *Performance orientation* implies that owners support striving for "performance improvement and excellence".³ We based the scales on scenarios rather than on Likert items because scenario-based scales tend to hold higher cross-cultural validity and higher construct validity than scales based on Likert items, which means that they tend to allow for more meaningful cross-cultural comparisons and more accurate descriptions and predictions of behaviors (Peng, Nisbett, & Wong, 1997). We validated the scales on Chinese and German owners. If we succeeded in demonstrating the scales' suitability for owners from two cultures as different as China and Germany (Javidan et al., 2004), we could be optimistic that the scales would also be suitable for owners from other cultures.

³ Later on, we also developed a scale measuring gender egalitarianism, a cultural orientation that refers to another cultural dimension introduced by the GLOBE Study (House & Javidan, 2004). *Gender egalitarianism* means that owners promote gender equality (Javidan et al., 2004).

1.2.2. Second Study

The second study focuses on the implications of owners' cultural orientations for business success. It is cross-sectional in design and was conducted in China and Germany.

Visions represent images of desirable futures that provide meaning and direction (Bennis & Nanus, 1985; House & Shamir, 1993; Kouzes & Posner, 1987). They can be described by vision characteristics (Locke et al., 1991). One focus in entrepreneurship research has been on the effectiveness of vision characteristics, that is, on the relationships between vision characteristics and business success (Baum, Locke, & Kirkpatrick, 1998). Business success comprises financial dimensions, such as sales growth or growth in the number of employees, and operational dimensions, such as product and service quality or customer satisfaction (Combs, Crook, & Shook, 2005; Venkatraman & Ramanujam, 1986). Vision characteristics may be more effective, that is, more strongly related to business success, for some owners than for others. However, moderators of the relationships between vision characteristics and business success have not yet been identified in entrepreneurship research. We assumed that owners' cultural orientations moderate the relationships between vision characteristics and business success. This assumption implied that the effectiveness of vision characteristics depends on whether they match owners' cultural orientations ('match hypothesis', Tung, Walls, & Frese, 2006). We developed hypotheses regarding the moderator effects of six cultural orientations, namely, performance orientation, humane orientation, future orientation, assertiveness, power distance, and uncertainty avoidance. We hypothesized that each of the six cultural orientations moderates the relationship between one vision characteristic and business success. The six vision characteristics were 'challenge', 'social responsibility', 'future orientation', 'growth orientation', 'clarity', and 'stability' (Baum et al., 1998; Locke et al., 1991). Further, we assumed that cross-cultural differences in institutional collectivism (Gelfand et al., 2004), in-group collectivism (Gelfand et al., 2004), and the prevailing construal of the self (Markus & Kitayama, 1991) may lead to cross-cultural differences in the moderator effects of owners' cultural orientations. We supposed that our hypotheses would receive more support in collectivist cultures than in individualistic cultures. Therefore, we tested our hypotheses in China, a culture that is high on institutional collectivism and in-group collectivism and in which the interdependent construal of the self prevails, and in Germany, a culture that is low on institutional collectivism and in-group collectivism and in which the independent construal of the self prevails (Gelfand et al., 2004; Markus & Kitayama, 1991). We supposed that our hypotheses would receive more support in China than in Germany.

1.2.3. Third Study

The third study also focuses on the implications of owners' cultural orientations for business success. It is longitudinal in design and was conducted in Germany.

The focus in entrepreneurship research has been on studying the relationships between culture and entrepreneurial concepts at the societal and the organizational level of analysis (cf. the review by Hayton, George, & Zahra, 2002) rather than the relationships between cultural orientations and entrepreneurial concepts at the individual level of analysis. Shifting the focus, we studied the relationships between owners' cultural orientations and business success. These relationships may be characterized as follows: First, owners' cultural orientations may have effects on business success. Second, business success may have effects on owners' cultural orientations. Third, there may be reciprocal effects. Moreover, the effects may be synchronous or lagged. Our aim was to determine the effects by which the relationships between each of six cultural orientations and business success are characterized. The six cultural orientations were performance orientation, humane orientation, future orientation, assertiveness, power distance, and uncertainty avoidance.

The chapters in which the three studies are presented can be read independently of each other. They contain separate introductions and discussions.

2. Scenario-Based Scales Measuring Business Owners' Cultural Orientations

Culture is manifested in practices and values of societies and organizations (Erez & Gati, 2004; House & Javidan, 2004). It constitutes an important concept in entrepreneurship research (Freytag & Thurik, 2007). Indeed, there has been a recent increase in cross-cultural studies on entrepreneurship (cf. the review by Hayton et al., 2002). Several good scales have been developed to measure societal culture, such as the ones by Hanges and Dickson (2004) and Schwartz (1994). However, these scales should only be used when research is oriented toward the societal level of analysis. For example, scholars should use these scales when relating societal culture to rates of business ownership. In contrast, when research is oriented toward the individual level of analysis, scales developed to measure individual cultural orientations should be used. For example, scholars should use these scales when relating individual cultural orientations to business success. Cultural orientations are manifested in practices and values of individuals (Chirkov et al., 2003; Maznevski et al., 2002).

We developed and validated scenario-based scales measuring business owners' cultural orientations.¹ Given their conceptual and methodological features, the scales differ from other scales commonly used in cross-cultural research: Instead of measuring culture at the societal level, they measure cultural orientations at the individual level, and instead of being based on Likert items, they are based on scenarios.

2.1. Individual-Level Measurement of Owners' Cultural Orientations

Many cross-cultural studies in entrepreneurship research have focused on individual owners (cf. the review by Hayton et al., 2002). However, instead of measuring individual owners' cultural orientations, these studies imputed national culture scores found in other cross-cultural studies to each individual owner ("culture inferred from nationality" as Hayton et al., 2002, p.38, called it). The study by Steensma, Marino, Weaver, and Dickson (2000), which imputed Hofstede's national culture scores as individual scores, may serve as an example. Hofstede (2001) has repeatedly warned against such imputations because they involve committing ecological fallacies. They are based on the wrong assumption that all people within a nation show the same level of cultural concepts. Moreover, imputing national culture

¹ For simplification, 'business owners' are referred to as 'owners' in the following.

scores found in studies based on non-owners (such as the study by Hofstede, which was based on managers) to owners is problematic because owners are systematically different from non-owners across cultures (McGrath & MacMillan, 1992). Finally, the relationships between cultural concepts and outcome variables often differ depending on the level at which the cultural concepts are measured (Hofstede, 2002; Klein, Dansereau, & Hall, 1994).

There are two approaches to dealing with these problems: The first approach is to measure owners' cultural orientations using scales developed to measure societal culture. However, this leads to problems of analysis and interpretation (Chan, 1998; Klein et al., 1994). The use of societal-level scales at the individual level often involves loss of reliability and validity (Hofstede, 2002; Spector, Cooper, & Sparks, 2001). The second approach is to measure owners' cultural orientations using scales developed to measure individual cultural orientations. However, among the cultural orientation scales, we are not aware of any that are suitable for owners. Therefore, we developed scales measuring the practices owners use in their businesses. We considered practices to be more relevant for studying owners than values because practices are related to actions (Frese, 2006). Owners are defined as individuals who own and manage their businesses (Carland et al., 1984). How owners go about managing their businesses becomes apparent in their practices (Schein, 2004). The practices owners use in their businesses provide starting points for the development of organizational cultures. Starting from owners' practices, organizational cultures develop as a result of the interactions between owners and their employees (Schein, 2004). Thus, although owners cannot entirely determine organizational cultures, they can substantially influence them through their practices. Owners support organizational cultures that they consider conducive to business success (Ogbonna & Harris, 2000). As starting points for their development, owners use practices that may or may not be in accordance with their personality traits (Schein, 2004). For example, owners who are personally low on humane orientation may nevertheless use humane-oriented practices when they expect humane-oriented organizational cultures to foster their employees' motivation. Whereas personality traits are genetic and unalterable (Jang, Livesley, & Vernon, 1996), cultural orientations are acquired and can be altered. Thus, cultural orientations can be distinguished from personality traits.

The scales measure cultural orientations that refer to cultural dimensions introduced by the Global Leadership and Organizational Behavior Effectiveness (GLOBE) Study (House & Javidan, 2004). The cultural dimensions represent a theoretical and empirical advancement over other cultural dimensions introduced earlier in cross-cultural research. We based the

scales on definitions given by Javidan et al. (2004, p. 30), but adapted the definitions to the practices owners use in their businesses: *Uncertainty avoidance* implies that owners support reliance on “social norms, rules, and procedures” to prevent incertitude. *Power distance* means that owners promote acceptance of power being distributed unequally. *Collectivism* signifies that owners foster “collective distribution of resources and collective action” (*institutional collectivism*) as well as “loyalty and cohesiveness” (*in-group collectivism*). *Assertiveness* implies that owners support confrontation and aggressiveness. *Future orientation* signifies that owners foster “delaying gratification, planning, and investing in the future”. *Humane orientation* means that owners promote fairness, altruism, generosity, care, and kindness. *Performance orientation* implies that owners support striving for “performance improvement and excellence”.²

Similar to the importance of organizational cultures for business success (O'Reilly & Chatman, 1966), cultural orientations have an important function for how businesses are managed. For example, when owners support uncertainty avoidance, there is little support for risk taking. Provided that risk taking is crucial for business success, owners' support for uncertainty avoidance may reduce business success. Apart from one-to-one relationships between owners' cultural orientations and business success, there may also be interactions (Tung et al., 2006). For example, owners' support for uncertainty avoidance may particularly reduce business success when their businesses operate in high-tech environments with many competitors and owners, therefore, need to take risks.

The development and the validation of the cultural orientation scales were embedded in a research project on Chinese and German owners. This enabled us to ascertain whether the scales are suitable for both Chinese and German owners and whether they allow for meaningful comparisons across China and Germany. If we succeeded in demonstrating the scales' suitability for owners from two cultures as different as China and Germany (Javidan et al., 2004), we could be optimistic that the scales would also be suitable for owners from other cultures and that they would allow for meaningful comparisons across cultures other than China and Germany as well.

² Later on, we also developed a scale measuring gender egalitarianism, a cultural orientation that refers to another cultural dimension introduced by the GLOBE Study (House & Javidan, 2004). *Gender egalitarianism* means that owners promote gender equality (Javidan et al., 2004). Please see the Addendum on page 34 for details.

2.2. Scenario-Based Measurement of Owners' Cultural Orientations

Cross-cultural scholars have recently suggested that culture and cultural orientations should be measured using scales based on scenarios rather than using scales based on Likert items (Heine et al., 2001; Heine, Lehman, Peng, & Greenholtz, 2002; Kitayama, 2002; Peng et al., 1997). Likert items and scenarios differ in the measurement of culture and cultural orientations (Peng et al., 1997). Likert items consist of general abstract statements, such as 'I care for my family members', and standardized scale responses, such as 'strongly agree' or 'strongly disagree'. Hence, Likert items measure culture and cultural orientations via people's self-evaluations on general abstract statements. In contrast, scenarios consist of concrete social situations, such as 'Your poorly qualified nephew asks you to employ him in your business', and behavioral options, such as 'You employ your poorly qualified nephew' or 'You don't employ your poorly qualified nephew'. Hence, scenarios measure culture and cultural orientations via people's behavioral preferences in concrete social situations.

Scales based on Likert items tend to hold lower cross-cultural validity than scales based on scenarios, which means that they tend to allow for less meaningful cross-cultural comparisons (Peng et al., 1997). The cross-cultural validity of scales based on Likert items has been challenged for two main reasons: First, Likert items are more likely to be interpreted differently by people from different cultures than scenarios because general abstract statements and standardized scale responses offer a wider scope of interpretation than concrete social situations and behavioral options (Kitayama, 2002; Peng et al., 1997). For example, Chinese and German owners are more likely to differ in their interpretations of what it means to care for one's family members than in their interpretations of what it signifies to be asked by one's poorly qualified nephew to employ him in one's business. Also, Chinese and German owners are more likely to differ in their interpretations of what it means to 'strongly agree' or to 'strongly disagree' than of what it signifies to employ or not employ one's poorly qualified nephew. Different interpretations threaten the validity of cross-cultural comparisons (Kitayama, 2002; Peng et al., 1997).

Second, Likert items are more affected by the reference group effect than scenarios (Heine et al., 2001; Peng et al., 1997). The reference group effect occurs when people have to refer to the standards of their reference groups (Heine et al., 2002). Likert items are affected by the reference group effect because people have to refer to the standards of their reference groups to give their self-evaluations on general abstract statements (Biernat, Manis, & Nelson, 1991). For example, to tell how much they care for their family members, owners have to

consider how much other owners care for their family members. Scenarios are less affected by the reference group effect because people do not have to refer to the standards of their reference groups to give their behavioral preferences in concrete social situations (Peng et al., 1997). For example, to tell whether or not they prefer to employ their poorly qualified nephews, owners do not have to consider whether or not other owners prefer to employ their poorly qualified nephews. The reference group effect occurs because people from different cultures have different reference groups that may differ in their standards (Heine et al., 2002). For example, Chinese owners refer to other Chinese owners, whereas German owners refer to other German owners. If Chinese owners generally care more for their family members than German owners, Chinese owners evaluate themselves with higher standards than German owners. Different standards threaten the validity of cross-cultural comparisons (Heine et al., 2002; Peng et al., 1997).

In addition to these cross-cultural issues, scales based on Likert items tend to hold lower construct validity than scales based on scenarios, which means that they tend to allow for less accurate descriptions and predictions of behaviors (Peng et al., 1997). The construct validity of scales based on Likert items has been challenged because people's self-evaluations on general abstract statements less accurately describe and predict their behaviors than people's behavioral preferences in concrete social situations (Chan & Schmitt, 1997; Motowidlo, Dunnette, & Carter, 1990). For example, owners' self-evaluations on how much they care for their family members less accurately describe and predict the active support they provide to them than owners' preferences on whether or not to employ their poorly qualified nephews.

As we wanted the cultural orientation scales to hold cross-cultural validity and construct validity, we based them on scenarios rather than on Likert items. However, this involved potential loss of reliability in terms of coefficient alpha (Cronbach, 1951) and composite reliability, a reliability estimate used in structural equation modeling (Fornell & Larcker, 1981). Coefficient alpha and composite reliability estimate internal consistency. Scales based on scenarios tend to show lower internal consistencies than scales based on Likert items (Chan & Schmitt, 1997; Motowidlo et al., 1990). Consisting of concrete social situations and behavioral options, scenarios capture more situational and behavioral aspects than Likert items that consist of general abstract statements and standardized scale responses. Therefore, scenarios have higher specific variances that result in lower intercorrelations. We accepted potential loss of reliability in terms of coefficient alpha and composite reliability because we considered it outweighed by the superior cross-cultural validity and construct validity held by

scenario-based scales. Moreover, there is an alternative to coefficient alpha and composite reliability, and that is test-retest reliability. Test-retest reliability is assumed to be a more appropriate reliability estimate for scenario-based scales because it does not estimate internal consistency (Chan & Schmitt, 1997; Motowidlo et al., 1990).

2.3. Cross-Cultural Validity

The cultural orientation scales are useful for cross-cultural scholars if they hold cross-cultural validity and, thus, allow for meaningful comparisons across cultures. In particular, the scales must enable scholars to meaningfully compare the means of the cultural orientations as well as the relationships between them. Five forms of invariance should be supported for the scales (Steenkamp & Baumgartner, 1998; Vandenberg & Lance, 2000):

Configural invariance implies that a measure holds an equal configuration of factors and indicators across cultures. The same indicators load on the same factors. Given configural invariance, scholars can compare constructs across cultures because the constructs have the same meaning. Configural invariance provides the basis for all other forms of invariance (Horn & McArdle, 1992). *Metric invariance* means that the indicators have equal factor loadings across cultures. *Scalar invariance* signifies that the indicators also have equal intercepts across cultures. Given metric and scalar invariance, scholars can conduct meaningful cross-cultural comparisons of observed and latent construct means (Horn & McArdle, 1992; Meredith, 1993). *Factor variance invariance* implies that the factors have equal variances across cultures. Given metric and factor variance invariance, scholars can conduct meaningful cross-cultural comparisons of relationships between constructs (Schmitt, 1982; Steenkamp & Baumgartner, 1998). *Error variance invariance* means that the indicators hold equal error variances across cultures. Given metric, factor variance, and error variance invariance, a measure is equally reliable across cultures (Steenkamp & Baumgartner, 1998). Configural, metric, scalar, and error variance invariance are forms of measurement invariance, which concerns the relationships between the factors and the indicators (Byrne, Shavelson, & Muthén, 1989). Factor variance invariance is a form of structural invariance, which concerns the factors themselves (Byrne et al., 1989).

In contrast to full invariance, partial invariance signifies that some, but not all, parameters are equal across cultures (Reise, Widaman, & Pugh, 1993). Partial invariance is more likely to be supported in cross-cultural research than full invariance (Steenkamp & Baumgartner, 1998). Fortunately, partial invariance hardly affects the meaningfulness of

cross-cultural comparisons. Provided that metric and scalar invariance are partially given, construct means can still be meaningfully compared across cultures (Byrne et al., 1989). Provided that metric and factor variance invariance are partially given, relationships between constructs with equal variances can still be meaningfully compared across cultures (Byrne et al., 1989).

2.4. Construct Validity

We established a nomological net (Cronbach & Meehl, 1955) in which we related the cultural orientations to other constructs that are theoretically associated with them. Among the constructs covered in the research project, we considered nine constructs to be appropriate validation constructs for the cultural orientations: (1) *Achievement striving* implies that owners work hard to achieve their goals (McClelland, 1961). (2) *Deliberation* means that owners carefully consider their decisions (Costa & McCrae, 1992). (3) *Error communication* signifies that owners turn to their employees when they have made errors (Rybowiak, Garst, Frese, & Batinic, 1999). (4) *Meta-cognitive activity* implies that owners plan, monitor, and revise their performance (Schmidt & Ford, 2003). (5) *Task-oriented personal initiative* means that owners take proactive and self-starting approaches to seizing opportunities and preparing for challenges (Frese, Kring, Soose, & Zempel, 1996). (6) *Relationship-oriented personal initiative* signifies that owners take proactive and self-starting approaches to improving and expanding their business relationships (Zhao, Giardini, & Frese, 2005). (7) *Social satisfaction* implies that owners are satisfied with the social relationships they have with their employees. (8) *Number of co-owners who are actively involved in the management of the business*. (9) *Number of family members who work in the business*.

Uncertainty avoidance. We made the hypotheses that uncertainty avoidance is negatively related to task-oriented and to relationship-oriented personal initiative. Task-oriented and relationship-oriented personal initiative require willingness to take risks because taking proactive and self-starting approaches to seizing opportunities and preparing for challenges or to improving and extending business relationships brings about changes and, therefore, increases uncertainty (Fay & Frese, 2001; Frese, Fay, Hilburger, Leng, & Tag, 1997). Owners who consider it beneficial to rely on “social norms, rules, and procedures” to prevent incertitude (Javidan et al., 2004, p. 30) are unwilling to take risks (Sully De Luque & Javidan, 2004). This renders them unlikely to show task-oriented and relationship-oriented personal initiative.

Power distance. We hypothesized a negative relationship between power distance and error communication. To turn to their employees when they have made errors, owners must be ready to acknowledge fallibility (Hofstede, 1984; Rybowskiak et al., 1999). Owners who deem it advantageous that their employees accept power being distributed unequally (Javidan et al., 2004) are interested in demonstrating infallibility to assert their superior positions (Carl, Gupta, & Javidan, 2004). Therefore, they are unlikely to communicate their errors.

Collectivism. We made the hypotheses that institutional collectivism is positively related to the number of co-owners who are actively involved in the management of the business, and that in-group collectivism is positively related to the number of family members who work in the business. Owners who consider it beneficial to act collectively (Javidan et al., 2004) are likely to join with others in managing their businesses (Gelfand et al., 2004; Hofstede, 1984), whereas owners who deem it advantageous to be loyal and cohesive (Javidan et al., 2004) are likely to employ their family members (Gelfand et al., 2004; Hofstede, 1984).

Assertiveness. We hypothesized negative relationships between assertiveness and deliberation as well as between assertiveness and meta-cognitive activity. Carefully considering decisions and planning, monitoring, and revising performance imply cautiousness and forethought (Costa & McCrae, 1992; Schmidt & Ford, 2003). Owners who deem it advantageous to be confrontative and aggressive (Javidan et al., 2004) are rather impulsive (Den Hartog, 2004). Therefore, they are unlikely to show deliberation and meta-cognitive activity.

Future orientation. We made the hypothesis that future orientation is positively related to achievement striving. Owners who consider it beneficial to delay gratification and to invest in the future (Javidan et al., 2004) are likely to work hard to achieve their goals (Ashkanasy et al., 2004; McClelland, 1961). Moreover, we made the hypotheses that future orientation is positively related to deliberation and to meta-cognitive activity. Carefully considering decisions and planning, monitoring, and revising performance reflect planful action (Costa & McCrae, 1992; Schmidt & Ford, 2003). Owners who deem it advantageous to plan (Javidan et al., 2004) act planfully (Ashkanasy et al., 2004). This renders them likely to show deliberation and meta-cognitive activity.

Humane orientation. We hypothesized positive relationships between humane orientation and error communication as well as between humane orientation and social satisfaction. To turn to their employees when they have made errors and to be satisfied with the social

relationships they have with their employees, owners must perceive these relationships as trusting and compassionate (Hofstede, 1984; Rybowski et al., 1999). Given that fairness, altruism, generosity, care, and kindness (Javidan et al., 2004) enhance mutual trust and compassion, owners who promote these qualities probably perceive their relationships with their employees as trusting and compassionate (Kabasakal & Bodur, 2004). Therefore, they are likely to communicate their errors and to be socially satisfied.

Performance orientation. We made the hypothesis that performance orientation is positively related to achievement striving. Owners who consider it beneficial to strive for excellence (Javidan et al., 2004) are likely to work hard to achieve their goals (Javidan, 2004; McClelland, 1961). Moreover, we hypothesized a positive relationship between performance orientation and meta-cognitive activity. Owners who deem it advantageous to strive for performance improvement (Javidan et al., 2004) are likely to plan, monitor, and revise their performance (Javidan, 2004; Schmidt & Ford, 2003). Finally, we made the hypotheses that performance orientation is positively related to task-oriented and to relationship-oriented personal initiative. Taking proactive and self-starting approaches to seizing opportunities and preparing for challenges or to improving and extending business relationships enhances business success (Frese, Krauss, & Friedrich, 2000; Koop, De Reu, & Frese, 2000). Owners who support striving for “performance improvement and excellence” (Javidan et al., 2004, p. 30) are interested in enhancing business success (Javidan, 2004). This renders them likely to show task-oriented and relationship-oriented personal initiative.

2.5. Method

2.5.1. Development

Following a parallel approach (Harkness, Van de Vijver, & Johnson, 2003), we developed the cultural orientation scales in a team of Chinese and German scholars. We combined our expertise to make sure that the scales were suitable for both Chinese and German owners. We developed the scales in English. The translations into Chinese and German were produced and checked by competent bilinguals.

We created scenarios that consist of social situations and behavioral options. The social situations describe problems owners may encounter in their businesses. They all begin with ‘Imagine that ...’ and end with ‘What do you do?’. Each social situation represents one of the cultural orientations. For example, the problem whether or not to employ one’s poorly qualified nephew represents in-group collectivism. The behavioral options describe behaviors

owners may show to solve the problems. They all begin with ‘You ...’. Two behavioral options follow each social situation. The first option represents a low score on the cultural orientation, whereas the second option represents a high score. For example, not employing one’s poorly qualified nephew represents low in-group collectivism, whereas employing him represents high in-group collectivism. Between the two behavioral options, there are two mirror-inverted three-point scales that are directed towards the first and the second option, respectively. The two scales range from ‘somewhat true of me’ (3/4) over ‘very true of me’ (2/5) to ‘extremely true of me’ (1/6). To complete the scales, owners have to make themselves aware of how they generally behave in their businesses. Going through the scenarios, they have to make mental simulations of their behaviors in the social situations. For each social situation, they have to decide which of the two behavioral options applies more to them. They can indicate their decision by ticking a point on the respective three-point scale.

In a pilot study, we tested the scenarios on 100 Chinese and German business students. Based on the data obtained from the business students, we conducted exploratory factor analyses to judge whether the scenarios appropriately measured the cultural orientations. Judging them as appropriate, we included all those scenarios in the scales that had high factor loadings on the cultural orientations. At the end of their development, the scales comprised 40 scenarios. Institutional collectivism and in-group collectivism were each assessed by three scenarios. Uncertainty avoidance and power distance were each measured by five scenarios, whereas assertiveness, future orientation, humane orientation, and performance orientation were each assessed by six scenarios.

2.5.2. Participants and Procedure

The sample comprised Chinese and German owners. Their businesses belonged to four industries, namely, information technology, hotel and catering, automobile, and construction. To participate in the study, the owners had to meet two criteria: First, they had to own (with shares of at least 10%) and manage their businesses. Second, they had to have at least one employee. There is a qualitative difference between owners who work alone and owners who have employees. The step from working alone to having employees implies a change in self-perception, responsibility, and managerial demands (Frese & de Kruif, 2000). We searched for participants in four provinces (Hubei, Hunan, Jiangsu, and Zhejiang) and two municipalities (Chongqing and Shanghai) in Eastern China and in one province (Hesse) in Western Germany. As a first strategy, we used the yellow pages as well as lists provided by the Chi-

nese local government and the German chamber of commerce. As a second strategy, we relied on personal contacts with and recommendations of owners. The first strategy was more effective in Germany, whereas the second strategy was more effective in China.

Of the 458 owners who met the criteria for participation in China, 298 (65%) participated in the study. Of the 697 owners who met the criteria for participation in Germany, 290 (42%) participated in the study. We interviewed the owners and asked them to complete a questionnaire that included the cultural orientation scales. Of the 588 owners who participated in the study, 461 (78%) completed the questionnaire. They served as participants for the validation of the scales. Among them were 260 Chinese (56%) and 201 Germans (44%). Most of the Chinese and the German owners did not only own and manage their businesses but had also founded them (82%, $n = 213$, and 68%, $n = 137$, respectively). The Chinese owners had 198 employees on average. Their businesses belonged particularly to the automobile industry (33%, $n = 85$), followed by the hotel and catering industry (26%, $n = 68$), the information technology industry (21%, $n = 56$), and the construction industry (20%, $n = 51$). The German owners had 12 employees on average. Their businesses belonged particularly to the construction industry (41%, $n = 82$), followed by the information technology industry (23%, $n = 47$), the hotel and catering industry (21%, $n = 43$), and the automobile industry (15%, $n = 30$).

Six months after they had completed the scales for the first time, we asked 25 German owners to complete them a second time. The 22 German owners (88%) who agreed to do so served as participants for the assessment of the scales' test-retest reliabilities. The sub-sample was representative of the German sample.

2.5.3. Measures

Apart from the cultural orientation scales, the questionnaire included scales and single items that measured the validation constructs:³ Achievement striving and deliberation were each assessed by two items developed by Costa and McCrae (1992). Sample items were 'I work hard to accomplish my goals' and 'I think things through before coming to a decision', respectively. The items were rated on five-point scales ranging from 'strongly disagree' (1) to 'strongly agree' (5). Error communication was measured by four items adapted from Rybowskiak et al. (1999). A sample item was 'If I cannot rectify an error by myself, I turn to my

³ The composite reliabilities of the scales measuring the validation constructs could only be assessed through specifying and estimating models. Therefore, they are presented in the result section.

employees'. The items were rated on five-point scales ranging from 'does not apply at all' (1) to 'applies completely' (5). Meta-cognitive activity was assessed by ten items adapted from Schmidt and Ford (2003). A sample item was 'I think about what skills need the most practice'. The items were rated on five-point scales ranging from 'strongly disagree' (1) to 'strongly agree' (5). Task-oriented personal initiative was measured by seven items developed by Frese et al. (1997), whereas relationship-oriented personal initiative was assessed by seven items developed by Frese, König, and Rauch (2005). Sample items were 'I actively attack problems' and 'I actively seek to improve my business relationships', respectively. The items were rated on five-point scales ranging from 'does not apply at all' (1) to 'applies completely' (5). Social satisfaction was measured by a single item: 'How satisfied are you with your social relationships with your employees?' The item was rated on a seven-point scale ranging from 'very unsatisfied' (1) to 'very satisfied' (7). The number of co-owners who are actively involved in the management of the business and the number of family members who work in the business were each assessed by a single item.

2.5.4. Cross-Cultural Validation

To ascertain whether the cultural orientation scales hold cross-cultural validity, we tested configural, metric, scalar, factor variance, and error variance invariance. We specified a model of configural invariance in which we restricted the configuration of the cultural orientations and their scenarios to be equal across the Chinese and the German samples. The model of configural invariance comprised the scenarios that appropriately measured the cultural orientations. We included all those scenarios in the model that had high factor loadings and low modification indices. We assigned scales and origins to the cultural orientations by setting the factor loading of one scenario per cultural orientation to one and fixing its intercept to zero. Starting from the model of configural invariance, we specified nested models of metric, scalar, factor variance, and error variance invariance. In the nested models, we successively constrained the factor loadings and intercepts of the scenarios, the variances of the cultural orientations, as well as the error variances of the scenarios to be equal across the Chinese and the German samples. We estimated the models by conducting multi-group confirmatory factor analyses. We used LISREL 8 (Jöreskog & Sörbom, 1993) and the maximum likelihood estimation method on the basis of variance-covariance matrices and mean vectors. To evaluate model fit, we relied on the chi-square test (Jöreskog, 1971) along with the root mean square error of approximation (RMSEA, Browne & Cudeck, 1993) and the comparative fit index (CFI, Bentler, 1990). We interpreted RMSEA values close to .060 and CFI values close to .95

as indicators of good model fit (Hu & Bentler, 1999). To compare two nested models, we relied on the chi-square difference test (Bollen, 1989). Given a non-significant increase in chi-square between the less and the more constrained model, full invariance was supported. Given a significant increase in chi-square between the less and the more constrained model, we investigated whether partial invariance was supported. We examined modification indices and relaxed the equality constraint for those parameters that were unequal across the Chinese and the German samples. We assessed the scales' composite reliabilities in the Chinese and the German samples. Moreover, we assessed the scales' test-retest reliabilities in the German subsample.

2.5.5. Construct Validation

To ascertain whether the cultural orientation scales hold construct validity, we assessed the relationships between the cultural orientations and their validation constructs. We specified a model of configural invariance in which we restricted the configuration of the cultural orientations and their scenarios as well as the configuration of the nine validation constructs and their items to be equal across the Chinese and the German samples. Apart from the scenarios that appropriately measured the cultural orientations, the model of configural invariance comprised the items that appropriately measured the nine validation constructs. We included all those items in the model that had high factor loadings and low modification indices. We assigned scales and origins to the nine validation constructs by setting the factor loading of one item per validation construct to one and fixing its intercept to zero. The model of configural invariance provided the relationships between the cultural orientations and their validation constructs. To ascertain whether the relationships could be meaningfully compared across the Chinese and the German samples, we tested not only configural invariance but also metric and factor variance invariance. Starting from the model of configural invariance, we specified nested models of metric and factor variance invariance. In the nested models, we successively constrained the factor loadings of the scenarios and the items, as well as the variances of the cultural orientations and the nine validation constructs to be equal across the Chinese and the German samples. We estimated the models by conducting multi-group confirmatory factor analyses. To determine the significance of the difference between two correlation coefficients, we used the Fisher r -to- z transformation. We assessed the composite reliabilities of the scales measuring the validation constructs in the Chinese and the German samples.

2.6. Results

2.6.1. Cross-Cultural Validity

The results obtained in the tests of configural, metric, scalar, factor variance, and error variance invariance are presented in Table 2-1 on page 26. The model of configural invariance (Model A) comprised 23 scenarios that appropriately measured seven cultural orientations. In-group collectivism was assessed by two scenarios.⁴ Uncertainty avoidance, assertiveness, future orientation, and performance orientation were each measured by three scenarios. Humane orientation and power distance were assessed by four and five scenarios, respectively. The model of configural invariance provided adequate fit ($\chi^2(418) = 603.45$; RMSEA = .044; CFI = .94). Hence, configural invariance was supported. Given configural invariance, the seven cultural orientations can be meaningfully compared across the Chinese and the German samples.

In the model of full metric invariance (Model B), the factor loadings of the scenarios were constrained to be equal across the Chinese and the German samples. They are presented in Table 2-2 on page 27. The increase in chi-square between the model of configural invariance (Model A) and the model of full metric invariance (Model B) was not significant ($\Delta\chi^2(16) = 24.82$, n.s.), and the latter model achieved adequate fit ($\chi^2(434) = 628.26$; RMSEA = .044; CFI = .93). Hence, full metric invariance was supported for each of the seven cultural orientations.

In the model of full scalar invariance (Model C), the intercepts of the scenarios were restricted to be equal across the Chinese and the German samples. They are presented in Table 2-2 on page 27. The increase in chi-square between the model of full metric invariance (Model B) and the model of full scalar invariance (Model C) was highly significant ($\Delta\chi^2(16) = 74.61$, $p < .01$). Full scalar invariance was thus not supported for each of the seven cultural orientations. Examination of the modification indices revealed that the significant increase in chi-square was due to unequal intercepts of two scenarios measuring power distance, one scenario measuring assertiveness, and one scenario measuring humane orientation. The intercepts of the three scenarios measuring power distance and humane orientation were higher in

⁴ Due to low factor loadings and high modification indices, the scenarios created to assess institutional collectivism turned out to be inappropriate. Therefore, they were not comprised in the model of configural invariance.

the Chinese sample, which means that, regarding these three scenarios, the Chinese owners ticked higher scale points. The intercept of the scenario measuring assertiveness was higher in the German sample, which means that, regarding this scenario, the German owners ticked higher scale points. In the model of partial scalar invariance (Model D), we relaxed the equality restriction for the unequal intercepts. The increase in chi-square between the model of full metric invariance (Model B) and the model of partial scalar invariance (Model D) was not significant ($\Delta\chi^2(12) = 13.66$, n.s.), and the latter model achieved adequate fit ($\chi^2(446) = 641.92$; RMSEA = .044; CFI = .93). Hence, full scalar invariance was supported for uncertainty avoidance, in-group collectivism, future orientation, performance orientation, whereas partial scalar invariance was supported for power distance, assertiveness, and humane orientation. Given full metric and partial scalar invariance, the observed and latent means of the seven cultural orientations can be meaningfully compared across the Chinese and the German samples.

In the model of full factor variance invariance (Model E), the variances of the seven cultural orientations were constrained to be equal across the Chinese and the German samples. They are presented in Table 2-2 on page 27. The increase in chi-square between the model of partial scalar invariance (Model D) and the model of full factor variance invariance (Model E) was highly significant ($\Delta\chi^2(7) = 26.30$, $p < .01$). Full factor variance invariance was thus not supported. Examination of the modification indices revealed that the significant increase in chi-square was due to unequal variances of uncertainty avoidance and assertiveness. They were higher in the Chinese than in the German sample, which means that, regarding these two cultural orientations, the Chinese owners were more heterogeneous than the German owners. In the model of partial factor variance invariance (Model F), we relaxed the equality constraint for the unequal variances. The increase in chi-square between the model of partial scalar invariance (Model D) and the model of partial factor variance invariance (Model F) was not significant ($\Delta\chi^2(6) = 4.79$, n.s.), and the latter model provided adequate fit ($\chi^2(451) = 646.71$; RMSEA = .044; CFI = .93). Because most, but not all, variances were equal across the Chinese and the German samples, partial factor variance invariance was supported. Given full metric and partial factor variance invariance, the relationships between power distance, in-group collectivism, future orientation, humane orientation, and performance orientation can be meaningfully compared across the Chinese and the German samples. The relationships involving uncertainty avoidance and assertiveness should be compared with caution.

In the model of full error variance invariance (Model G), the error variances of the scenarios were restricted to be equal across the Chinese and the German samples. They are presented in Table 2-2 on page 27. The increase in chi-square between the model of partial factor variance invariance (Model F) and the model of full error variance invariance (Model G) was highly significant ($\Delta\chi^2(23) = 263.16, p < .01$). Full error variance invariance was thus not supported for each of the seven cultural orientations. Examination of the modification indices revealed that the significant increase in chi-square was due to unequal error variances of eleven scenarios measuring uncertainty avoidance, power distance, assertiveness, future orientation, humane orientation, and performance orientation. They were higher in the Chinese than in the German sample, which means that, regarding these eleven scenarios, the Chinese owners produced larger variances due to measurement error than the German owners. In the model of partial error variance invariance (Model H), we relaxed the equality restriction for the unequal error variances. The increase in chi-square between the model of partial factor variance invariance (Model F) and the model of partial error variance invariance (Model H) was not significant ($\Delta\chi^2(12) = 18.14, \text{n.s.}$), and the latter model achieved adequate fit ($\chi^2(463) = 664.85$; RMSEA = .044; CFI = .93). Hence, full error variance invariance was supported for in-group collectivism, whereas partial error variance was supported for uncertainty avoidance, power distance, assertiveness, future orientation, humane orientation, and performance orientation.

The cultural orientation scales are presented in the Appendix. The scales' composite reliabilities in the Chinese and the German samples are presented in Table 2-3 on page 28. The scale measuring uncertainty avoidance showed higher composite reliability in the Chinese sample, whereas the scales measuring power distance, assertiveness, future orientation, humane orientation, and performance orientation displayed higher composite reliabilities in the German sample. Only the scale measuring in-group collectivism showed equal composite reliability across the Chinese and the German samples. This is due to the fact that in-group collectivism is the only cultural orientation for which both full metric and full error variance invariance are given and that, at the same time, has equal factor variances across the Chinese and the German samples. The scales' test-retest reliabilities in the German sub-sample are also presented in Table 2-3 on page 28. Each of the scales displayed higher test-retest reliability than composite reliability. This supports the assumption that test-retest reliability is a more appropriate reliability estimate for scenario-based scales than composite reliability (Chan & Schmitt, 1997; Motowidlo et al., 1990).

2.6.2. Construct Validity

The relationships between the seven cultural orientations and their validation constructs are presented in Table 2-4 on page 29. The relationships were provided by the model of configural invariance. The results obtained in the tests of configural, metric, and factor variance invariance are presented in Table 2-5 on page 30. Apart from the 23 scenarios that appropriately measured the seven cultural orientations, the model of configural invariance comprised 19 items that appropriately measured the nine validation constructs. Social satisfaction, the number of co-owners who are actively involved in the management of the business, and the number of family members who work in the business were each assessed by one item. Achievement striving, deliberation, and error communication were each measured by two items. Meta-cognitive activity and task-oriented personal initiative were each assessed by three items. Relationship-oriented personal initiative was measured by four items. The models of configural, full metric, and partial factor variance invariance achieved adequate fits. Hence, configural, full metric, and partial factor variance invariance were supported. Given configural invariance, the seven cultural orientations and the nine validation constructs can be meaningfully compared across the Chinese and the German samples. Given full metric and partial factor variance invariance, the relationships between five of the seven cultural orientations and seven of the nine validation constructs can be meaningfully compared across the Chinese and the German samples. The relationships involving uncertainty avoidance and assertiveness as well as the number of co-owners who are actively involved in the management of the business and the number of family members who work in the business should be compared with caution. The composite reliabilities of the scales measuring the validation constructs are presented in Table 2-3 on page 28.

Uncertainty avoidance. The correlations between uncertainty avoidance and its two validation constructs were consistent with our hypotheses. Uncertainty avoidance was negatively correlated to task-oriented personal initiative ($r = -.22, p < .05$ / $r = -.22, p < .01$)⁵ and to relationship-oriented personal initiative ($r = -.45, p < .01$ / $r = -.14, p > .05$). The more Chinese and German owners supported uncertainty avoidance, the less they showed task-oriented and relationship-oriented personal initiative. The negative correlation between uncertainty avoidance and relationship-oriented personal initiative was significantly higher in the

⁵ Whenever two correlation coefficients are given, the first correlation coefficient refers to the Chinese sample, whereas the second correlation coefficient refers to the German sample.

Chinese sample ($z = -3.64, p < .01$). In China, business relationships may be more delicate to handle and, therefore, may require more willingness to take risks than in Germany. This could explain why Chinese owners who supported uncertainty avoidance showed even less relationship-oriented personal initiative than their German counterparts. There was one non-hypothesized correlation that was as high as the hypothesized correlations. Uncertainty avoidance was negatively correlated to achievement striving ($r = -.28, p < .05$ / $r = -.17, p > .05$). The more Chinese and German owners supported reliance on social norms, rules, and procedures to prevent incertitude, the less they worked hard to achieve their goals. Post hoc, the negative correlation could be explained as follows: Achievement striving may require willingness to take risks. Owners who support uncertainty avoidance are unwilling to take risks. This renders them unlikely to show achievement striving.

Power distance. In accordance with our hypothesis, power distance was negatively correlated to error communication ($r = -.19, p < .01$; $r = -.50, p < .01$). The more Chinese and German owners promoted power distance, the less they communicated their errors. The negative correlation was significantly higher in the German sample ($z = 3.78, p < .01$). In Germany, acknowledgement of fallibility may be regarded as less compatible with leadership than in China. This could explain why German owners who promoted power distance communicated their errors even less than their Chinese counterparts.

Collectivism. The correlation between in-group collectivism and its validation construct was only partially in line with our hypothesis.⁶ In the Chinese sample, in-group collectivism was positively correlated to the number of family members who work in the business ($r = .19, p < .05$). The more Chinese owners fostered in-group collectivism, the more they employed their family members. In the German sample, however, in-group collectivism was not correlated to the number of family members who work in the business ($r = .00, p > .05$). Employing one's family members may be regarded as collectivism in China but disregarded as nepotism in Germany. This could explain why the hypothesized correlation existed in the Chinese but not in the German sample ($z = 2.03, p < .05$). There were several non-hypothesized correlations that were higher than the hypothesized correlation. No post hoc explanations could be provided for them.

⁶ As the model of configural invariance comprised no scenarios created to assess institutional collectivism, we could not test our hypothesis on the positive correlation between institutional collectivism and the number of co-owners who are actively involved in the management of the business.

Assertiveness. Consistent with our hypotheses, assertiveness was negatively correlated to deliberation ($r = -.30, p < .01$ / $r = -.18, p < .05$) and to meta-cognitive activity ($r = -.26, p < .01$ / $r = -.16, p < .05$). The more Chinese and German owners supported assertiveness, the less they showed deliberation and meta-cognitive activity.

Future orientation. The correlations between future orientation and its three validation constructs were in line with our hypotheses. Future orientation was positively correlated to achievement striving ($r = .31, p < .01$ / $r = .13, p > .05$), to deliberation ($r = .40, p < .01$ / $r = .12, p > .05$), and to meta-cognitive activity ($r = .25, p < .01$ / $r = .16, p < .05$). The more Chinese and German owners fostered future orientation, the more they showed achievement striving, deliberation, and meta-cognitive activity. The correlation between future orientation and achievement striving ($z = 2.01, p < .05$) and the correlation between future orientation and deliberation ($z = 3.21, p < .01$) were significantly higher in the Chinese sample. In China, hard work and careful consideration may be regarded as more essential to implementing long-term projects than in Germany. This could explain why Chinese owners who fostered future orientation showed even more achievement striving and deliberation than their German counterparts.

Humane orientation. In accordance with our hypotheses, humane orientation was positively correlated to error communication ($r = .22, p < .01$ / $r = .25, p < .01$) and to social satisfaction ($r = .19, p < .01$ / $r = .14, p > .05$). The more Chinese and German owners promoted humane orientation, the more they communicated their errors, and the more they were socially satisfied. There were two non-hypothesized correlations that were as high as the hypothesized correlations. First, humane orientation was positively correlated to achievement striving ($r = .36, p < .01$ / $r = .14, p > .05$). The more Chinese and German owners promoted fairness, altruism, generosity, care, and kindness, the more they worked hard to achieve their goals. Post hoc, the correlation could be explained as follows: Achievement striving may require motivating others to help achieve one's goals. Owners may promote humane orientation because their employees may be more motivated to help achieve their goals when they are treated in a humane-oriented way. The correlation was significantly higher in the Chinese sample ($z = 2.50, p < .05$). In China, employees' motivation to help achieve owners' goals may be lower than in Germany. This could explain why Chinese owners who showed achievement striving promoted even more humane orientation than their German counterparts. Second, humane orientation was positively correlated to deliberation ($r = .40, p < .01$ / $r = .16, p > .05$). The more Chinese and German owners promoted fairness, altruism, generos-

ity, care, and kindness, the more they carefully considered their decisions. Post hoc, the correlation could be explained as follows: Deliberation may reflect responsibility towards others who are affected by one's decisions. Owners who promote humane orientation act responsibly towards their employees. This renders them likely to show deliberation. The correlation was significantly higher in the Chinese sample ($z = 2.77, p < .01$). In China, responsibility towards employees may be more pronounced than in Germany. This could explain why Chinese owners who promoted humane orientation showed even more deliberation than their German counterparts.

Performance orientation. The correlations between performance orientation and its four validation constructs were consistent with our hypotheses. Performance orientation was positively correlated to achievement striving ($r = .42, p < .01$ / $r = .52, p < .01$), to meta-cognitive activity ($r = .35, p < .01$ / $r = .19, p < .05$), to task-oriented personal initiative ($r = .39, p < .01$ / $r = .21, p < .05$), and to relationship-oriented personal initiative ($r = .28, p < .01$ / $r = .34, p < .01$). The more Chinese and German owners supported performance orientation, the more they showed achievement striving, meta-cognitive activity, and task-oriented and relationship-oriented personal initiative. The correlation between performance orientation and task-oriented personal initiative was significantly higher in the Chinese sample ($z = 2.10, p < .05$). In China, seizing opportunities and preparing for challenges may be regarded as more essential to reaching excellence than in Germany. This could explain why Chinese owners who supported performance orientation showed even more task-oriented personal initiative than their German counterparts.

(To be continued on page 31.)

Table 2-1

Tests of Configural, Metric, Scalar, Factor Variance, and Error Variance Invariance

	Models	Comparisons	χ^2 (df)	$\Delta\chi^2$ (Δ df)	RMSEA	CFI
A	Configural invariance	-	603.45 (418)**	-	.044	.94
B	Full metric invariance	A versus B	628.26 (434)**	24.82 (16) ^{n.s.}	.044	.93
C	Full scalar invariance	B versus C	702.87 (450)**	74.61 (16)**	.050	.91
D	Partial scalar invariance	B versus D	641.92 (446)**	13.66 (12) ^{n.s.}	.044	.93
E	Full factor variance invariance	D versus E	668.22 (453)**	26.30 (7)**	.046	.93
F	Partial factor variance invariance	D versus F	646.71 (451)**	4.79 (6) ^{n.s.}	.044	.93
G	Full error variance invariance	F versus G	889.87 (474)**	263.16 (23)**	.062	.86
H	Partial error variance invariance	F versus H	664.85 (463)**	18.14 (12) ^{n.s.}	.044	.93

Note. * = $p < .05$, ** = $p < .01$, n.s. = not significant. RMSEA = root mean square error of approximation, CFI = comparative fit index.

Table 2-2

Variances of the Cultural Orientations, and Factor Loadings, Intercepts, and Error Variances of the Scenarios

Cultural orientations (variances)	Scenarios	Unstandardized factor loadings	Standardized factor loadings	Intercepts	Error variances
Uncertainty avoidance (0.40 / 0.19)	UA1	1.00	0.50	0.00	1.29 / 0.44
	UA2	1.22	0.54	-0.23	1.10
	UA6	1.20	0.60	0.38	0.80
Power distance (0.62)	PD1	0.87	0.50	1.05 / 0.64	1.71 / 1.09
	PD2	0.91	0.58	0.75 / 0.22	1.28 / 0.70
	PD3	1.00	0.77	0.00	0.42
	PD4	0.95	0.65	0.37	0.80
	PD6	0.85	0.52	0.69	1.23
In-group collectivism (0.42)	C5	1.00	0.52	0.00	1.16
	C7	0.87	0.53	-0.22	0.82
	A3	1.09	0.75	-0.71 / -0.39	0.28
Assertiveness (0.38 / 0.21)	A5	1.00	0.54	0.00	0.93 / 0.46
	A6	1.35	0.70	-0.91	0.86 / 0.16
Future orientation (0.28)	FO2	1.00	0.47	0.00	1.02
	FO4	1.15	0.52	-0.81	1.29 / 0.69
	FO6	1.30	0.69	-1.26	0.56
	HO1	1.00	0.62	0.00	0.68
Humane orientation (0.43)	HO3	0.74	0.56	1.40	0.59 / 0.39
	HO4	0.88	0.59	0.66 / 0.34	0.62
	HO6	0.96	0.59	0.24	0.90 / 0.54
Performance orientation (0.37)	PO2	1.00	0.45	0.00	2.09 / 0.72
	PO3	0.82	0.54	1.52	0.75 / 0.45
	PO5	0.77	0.32	0.09	2.54 / 1.33

Note. In cases of unequal variances, factor loadings, intercepts, and error variances across the Chinese and the German samples, two values are given. The first value refers to the Chinese sample, whereas the second value refers to the German sample.

Table 2-3

Reliabilities of the Scales Measuring the Cultural Orientations and the Validation Constructs

Cultural orientations / validation constructs	Composite reliabilities		Test-retest reliabilities
	China	Germany	Germany
Uncertainty avoidance	.60	.46	.74
Power distance	.73	.77	.78
In-group collectivism	.43	.43	.78
Assertiveness	.70	.74	.76
Future orientation	.56	.61	.74
Humane orientation	.66	.71	.73
Performance orientation	.35	.53	.75
Achievement striving	.70	.66	-
Deliberation	.55	.56	-
Error communication	.69	.75	-
Meta-cognitive activity	.75	.75	-
Task-oriented personal initiative	.75	.69	-
Relationship-oriented personal initiative	.81	.77	-

Note. Composite reliability is defined as the quotient between the added squared standardized factor loadings and the sum of the added squared standardized factor loadings and the added error variances (Fornell & Larcker, 1981).

Table 2-4

Relationships Between the Latent Cultural Orientations and the Latent Validation Constructs

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
01 Uncertainty avoidance		.34**	-.04	.32*	-.20	-.33**	-.01	-.28*	-.02	.06	-.09	-.22*	-.45**	-.09	.11	-.13
02 Power distance	.54**		.64**	.62**	-.50**	-.53**	-.39**	-.23**	-.36**	-.19**	-.10	-.07	-.11	-.16*	.01	.02
03 In-group collectivism	.24*	.13		.70**	-.50**	-.63**	-.60**	-.32**	-.30*	-.29**	-.31**	-.17	-.07	-.14	-.02	.19*
04 Assertiveness	.18*	.11	.21*		-.28*	-.27**	-.31*	-.24*	-.30**	-.01	-.26**	-.17	-.14	.02	.02	.02
05 Future orientation	-.48**	-.41**	-.40**	-.23**		.72**	.58**	.31*	.40**	.14	.25**	.15	.24*	.18*	.02	.11
06 Humane orientation	-.38**	-.53**	.06	-.40**	.39**		.62**	.36**	.40**	.22**	.39**	.28**	.15	.19**	-.10	-.02
07 Performance orientation	-.26*	.09	-.57**	-.21*	.33**	.07		.42**	.42**	.14	.35**	.39**	.28*	.26*	.23	.08
08 Achievement striving	-.17	-.06	-.21	-.07	.13	.13	.52**		.74**	.27**	.72**	.66**	.51**	.23**	.21*	.00
09 Deliberation	-.08	-.09	-.01	-.18*	.12	.16	.04	.36**		.14	.60**	.67**	.45**	.26**	.14	-.02
10 Error communication	-.17*	-.50**	-.05	-.11	.08	.25**	-.25**	.07	.06		.24**	.18*	.31**	.23**	.01	.02
11 Meta-cognitive activity	-.05	.04	-.20	-.16*	.16*	.11	.19*	.33**	.31**	-.02		.77**	.51**	.15*	.14	-.08
12 Task-oriented PI	-.22**	-.13	-.21	-.10	.10	.09	.21*	.59**	.20	.13	.32**		.66**	.17*	.21*	.03
13 Relationship-oriented PI	-.14	-.06	-.31*	-.10	.14	.07	.35**	.49**	.16	.08	.33**	.50**		.20**	.21*	.06
14 Social satisfaction	-.10	-.12	-.03	-.05	-.07	.14	-.11	.07	.04	.18**	.07	.04	-.02		.05	.05
15 Number of co-owners	.01	.01	.00	.09	-.12	-.10	-.02	-.02	-.00	-.01	-.02	.05	.04	.05		-.10
16 Number of family members	-.01	-.00	.00	-.00	.01	.00	-.00	.01	-.00	.00	.01*	.01	.01	.00	-.00	

Note. * = $p < .05$, ** = $p < .01$. The values above the diagonal refer to the Chinese sample, whereas the values below the diagonal refer to the German sample.

Table 2-5

Tests of Configural, Metric, and Factor Variance Invariance

	Models	Comparisons	χ^2 (df)	$\Delta\chi^2$ (Δ df)	RMSEA	CFI
A	Configural invariance	-	1922.02 (1404)**	-	.040	.92
B	Full metric invariance	A versus B	1950.42 (1430)**	28.41 (26) ^{n.s.}	.040	.92
C	Full factor variance invariance	B versus C	2121.26 (1446)**	170.84 (16)**	.045	.82
D	Partial factor variance invariance	B versus D	1965.43 (1442)**	15.01 (12) ^{n.s.}	.040	.92

Note. * = $p < .05$, ** = $p < .01$, n.s. = not significant. RMSEA = root mean square error of approximation, CFI = comparative fit index.

2.7. Discussion

We developed and validated scenario-based scales measuring seven cultural orientations of owners, namely, uncertainty avoidance, power distance, in-group collectivism, assertiveness, future orientation, humane orientation, and performance orientation. The seven cultural orientations are manifested in the practices owners use in their businesses. Owners' practices provide starting points for the development of organizational cultures.

The assessment of their invariance across China and Germany suggests that the scales hold cross-cultural validity. Full configural, full metric, and partial scalar invariance were supported, as were partial factor variance and partial error variance invariance. Hence, the scales enable scholars to meaningfully compare the means of the seven cultural orientations across China and Germany. Moreover, the scales enable scholars to conduct meaningful Chinese-German comparisons of the relationships involving power distance, in-group collectivism, future orientation, humane orientation, and performance orientation. The relationships involving uncertainty avoidance and assertiveness should be compared with caution.

Cultural response bias occurs when people from different cultures differ in their response sets (Triandis, 1994). The scales measuring uncertainty avoidance, in-group collectivism, future orientation, and performance orientation were not affected by cultural response bias because the Chinese and the German owners did not differ in their response sets on the scenarios assessing these cultural orientations. The scales measuring power distance, assertiveness, and humane orientation were marginally affected by cultural response bias because the Chinese and the German owners differed in their response sets on one or two scenarios assessing these cultural orientations.

The assessment of the relationships between the seven cultural orientations and their validation constructs suggests that most of the scales hold construct validity. According to tests of invariance, the relationships between five of the seven cultural orientations and seven of the nine validation constructs can be meaningfully compared across China and Germany. The relationships involving uncertainty avoidance and assertiveness, as well as the number of co-owners who are actively involved in the management of the business and the number of family members who work in the business should be compared with caution. Both in China and Germany, uncertainty avoidance, power distance, assertiveness, future orientation, humane orientation, and performance orientation demonstrated the hypothesized relationships with their validation constructs. Hence, it can be assumed that the scales measuring these

cultural orientations hold construct validity. As for uncertainty avoidance and humane orientation, there were three non-hypothesized relationships that were as high as the hypothesized relationships. However, as post hoc explanations could be provided for these relationships, they do not challenge the construct validity of the scales measuring uncertainty avoidance and humane orientation.

We intended to develop two scales measuring the two forms of collectivism, namely, institutional collectivism and in-group collectivism. However, we could only partially implement our intention. We did not succeed in developing a scale measuring institutional collectivism because the three scenarios created to assess this form of collectivism turned out to be inappropriate. We succeeded in developing a scale measuring in-group collectivism because two of the three scenarios created to assess this form of collectivism turned out to be appropriate. In-group collectivism demonstrated the hypothesized relationship with its validation construct in China but not in Germany. Hence, it can be assumed that the scale measuring in-group collectivism holds construct validity in China. The validation construct may not have been appropriate for in-group collectivism in Germany. There were several non-hypothesized relationships that were higher than the hypothesized relationship. As no post hoc explanations could be provided for these relationships, they challenge the construct validity of the scale measuring in-group collectivism both in China and Germany.⁷

2.7.1. Limitations and Implications for Future Research

Some of the scales do not cover all facets of the cultural orientations specified in the definitions. The 40 scenarios created to assess the cultural dimensions captured all of their facets. However, in the cross-cultural validation of the scales, only 23 scenarios turned out to be appropriate and were included in the scales.

Some of the scales show low internal consistencies. The scales measuring in-group collectivism and performance orientation display low composite reliabilities both in China and Germany, whereas the scale measuring future orientation and the scale measuring uncertainty avoidance display low composite reliabilities in China and Germany, respectively. These scales are based on few scenarios, and short scales usually suffer from low internal consistencies. However, we assume with Chan and Schmitt (1997) and Motowidlo et al.

⁷ Later on, we redeveloped the scales measuring institutional collectivism and in-group collectivism. Please see the Addendum on page 34 for details.

(1990) that test-retest reliability is a more appropriate reliability estimate for scenario-based scales than composite reliability. All of the scales show high test-retest reliabilities.

The Chinese and the German samples comprised both founders and non-founders. We compared the intercorrelation matrices obtained in samples that included only founders to the intercorrelation matrices obtained in samples that included only non-founders. The correlations between the compared intercorrelation matrices were $r = .90$ ($p < .01$) in China and $r = .92$ ($p < .01$) Germany. Thus, we can rule out that our results were distorted by the fact that the Chinese and the German samples comprised both owners who had and owners who had not founded their businesses.

Given that we developed and validated the scales for Chinese and German owners, their use may be limited in two respects: First, the scales are suitable for owners from China and Germany but may not be suitable for owners from other cultures. As long as it has not been ascertained whether the scales can be used to meaningfully compare owners from other cultures, comparisons should be conducted with caution. China and Germany are two quite different cultures. Therefore, we are optimistic that future studies will demonstrate the scales' suitability for owners from other cultures. Second, the scales are suitable for owners but may not be suitable for managers. As long as it has not been ascertained whether the scales allow for meaningful comparisons of managers, they should only be used to compare owners. Owners and managers have quite a lot in common. Therefore, we are optimistic that future studies will demonstrate the scales' suitability for managers.

2.8. Conclusion

The cultural orientation scales are useful for cross-cultural scholars and entrepreneurship scholars. Cross-cultural scholars can use the scales to investigate how owners from different cultures differ in their cultural orientations. Moreover, they can use the scales to investigate cross-cultural differences in the effects of owners' cultural orientations. Entrepreneurship scholars can use the scales to assess the practices owners use in their businesses. Thereby, they can assess how owners go about managing their businesses and how they support the development of organizational cultures. Moreover, entrepreneurship scholars can use the scales to study the relationships between owners' cultural orientations and entrepreneurial concepts at the individual level of analysis. The scales are also useful for owners. They can be used in training to make owners aware of the practices they use in their businesses. The

awareness of how they go about managing their businesses and how they support the development of organizational cultures may lead owners to challenge and improve their practices.

2.9. Addendum

Later on, we developed a scale measuring gender egalitarianism, and we redeveloped the scales measuring institutional collectivism and in-group collectivism. Again, we based the scales on scenarios. We could not ascertain whether the scales hold cross-cultural validity because they were completed by German owners only. Also, we could not ascertain whether the scales hold construct validity because we did not consider the constructs covered in the research project to be appropriate validation constructs for the three cultural orientations. Thus, we need to validate the scales measuring gender egalitarianism, institutional collectivism, and in-group collectivism in a future study.

Through specifying and estimating a model, we could, at least, assess the scales' composite reliabilities. The 149 German owners who completed the scales served as participants for the assessment. The model comprised the scenarios that appropriately measured the three cultural orientations. Gender egalitarianism, institutional collectivism, and in-group collectivism were each assessed by three scenarios. The model provided good fit ($\chi^2(24) = 26.18$; RMSEA = .022; CFI = 1.00). The scales' composite reliabilities ranged from .79 for institutional collectivism over .84 for in-group collectivism to .95 for gender egalitarianism. The scales measuring the three cultural orientations are presented in the Appendix.

3. Business Owners' Cultural Orientations as Moderators of the Relationships Between Vision Characteristics and Business Success

Visions represent images of desirable futures that provide meaning and direction (House & Shamir, 1993). They can be described by vision characteristics (Locke et al., 1991). One focus in entrepreneurship research has been on the effectiveness of vision characteristics, that is, on the relationships between vision characteristics and business success (Baum et al., 1998). Business success comprises financial dimensions, such as sales growth or growth in the number of employees, and operational dimensions, such as product and service quality or customer satisfaction (Combs, Crook, & Shook, 2005; Venkatraman & Ramanujam, 1986). Vision characteristics may be more effective, that is, more strongly related to business success, for some business owners than for others.¹ However, moderators of the relationships between vision characteristics and business success have not yet been identified in entrepreneurship research. We assume that owners' cultural orientations moderate these relationships, and we further assume that there are cross-cultural differences in the moderator effects of owners' cultural orientations.

3.1. The Moderator Effects of Owners' Cultural Orientations

We assume that owners' cultural orientations moderate the relationships between vision characteristics and business success. Owners' cultural orientations are manifested in the practices and values owners use in their businesses (König, Steinmetz, Frese, Rauch, & Wang, 2007). We consider practices to be more important moderators than values because practices are related to actions (Frese, 2006). Owners' practices substantially influence the development of organizational cultures (Schein, 2004), which, in turn, shape employees' practices (Aycan, Kanungo, & Sinha, 1999). Organizational cultures develop as a result of the interactions between owners and employees (Schein, 2004). Due to the substantial influence of owners' practices on these interactions, organizational cultures shape employees' practices such that employees' practices conform to owners' practices (Schein, 2004). Thus, owners' cultural orientations, which are manifested in owners' practices, are reflected in employees' practices.

¹ Business owners are defined as individuals who own and manage their businesses (Carland et al., 1984). For simplification, they are referred to as 'owners' in the following.

The assumption that owners' cultural orientations moderate the relationships between vision characteristics and business success implies that the effectiveness of vision characteristics depends on whether they match owners' cultural orientations ('match hypothesis', Tung et al., 2006): When there is a match between vision characteristics and owners' cultural orientations, vision characteristics are effective because both owners' practices (in which owners' cultural orientations are manifested) and employees' practices (in which owners' cultural orientations are reflected) are conducive to their effectiveness. In contrast, when there is no match between vision characteristics and owners' cultural orientations, vision characteristics are not effective because neither owners' practices nor employees' practices are conducive to their effectiveness.

Based on the assumption that owners' cultural orientations moderate the relationships between vision characteristics and business success, we developed hypotheses regarding the moderator effects of six cultural orientations. The six cultural orientations refer to cultural dimensions introduced by the Global Leadership and Organizational Behavior Effectiveness (GLOBE) Study (House & Javidan, 2004). We adapted the definitions given by Javidan et al. (2004, p. 30) to the practices owners use in their businesses: *Performance orientation* implies that owners support striving for "performance improvement and excellence." *Humane orientation* means that owners promote fairness, altruism, generosity, care, and kindness. *Future orientation* signifies that owners foster "delaying gratification, planning, and investing in the future." *Assertiveness* implies that owners support confrontation and aggressiveness. *Power distance* means that owners promote acceptance of power being distributed unequally. *Uncertainty avoidance* signifies that owners foster reliance on "social norms, rules, and procedures" to prevent incertitude. To each of the six cultural orientations, we assigned one vision characteristic, namely, the one that matches the cultural orientation best. The six vision characteristics have been assumed to be related to business success (Baum et al., 1998; Locke et al., 1991). We hypothesize that each of the six cultural orientations moderates the relationship between the vision characteristic that matches it best and business success.

Performance orientation. The vision characteristic 'challenge' implies that visions make great demands on owners and employees (Locke et al., 1991; Nanus, 1992). Therefore, its effectiveness depends on whether owners and employees work hard. We suppose that the vision characteristic 'challenge' matches high performance orientation. The more owners support performance orientation in their businesses, the more effective the vision characteristic 'challenge' is, because the more organizational cultures emphasize striving for "perform-

ance improvement and excellence” (Javidan et al., 2004, p. 30), the more likely owners and employees are to work hard (Javidan, 2004). In contrast, we suppose that the vision characteristic ‘challenge’ does not match low performance orientation. The less owners support performance orientation in their businesses, the less effective the vision characteristic ‘challenge’ is, because the less organizational cultures emphasize striving for “performance improvement and excellence” (Javidan et al., 2004, p. 30), the less likely owners and employees are to work hard (Javidan, 2004).

Hypothesis 1: Owners’ performance orientation moderates the relationship between the vision characteristic ‘challenge’ and business success. The more owners support performance orientation in their businesses, the stronger the relationship is.

Humane orientation. The vision characteristic ‘social responsibility’ means that visions are concerned with the well-being of others (Conger, 1989; Strange & Mumford, 2002). Thus, its effectiveness depends on whether owners and employees stand up for others. We hypothesize that there is a match between the vision characteristic ‘social responsibility’ and high humane orientation. The more owners promote humane orientation in their businesses, the more effective the vision characteristic ‘social responsibility’ is, because the more emphasis organizational cultures put on fairness, altruism, generosity, care, and kindness (Javidan et al., 2004), the more likely owners and employees are to stand up for others (Kabasakal & Bodur, 2004). In contrast, we hypothesize that there is no match between the vision characteristic ‘social responsibility’ and low humane orientation. The less owners promote humane orientation in their businesses, the less effective the vision characteristic ‘social responsibility’ is, because the less emphasis organizational cultures put on fairness, altruism, generosity, care, and kindness (Javidan et al., 2004), the less likely owners and employees are to stand up for others (Kabasakal & Bodur, 2004).

Hypothesis 2: Owners’ humane orientation moderates the relationship between the vision characteristic ‘social responsibility’ and business success. The more owners promote humane orientation in their businesses, the stronger the relationship is.

Future orientation. The vision characteristic ‘future orientation’ signifies that visions refer to long-term perspectives (Locke et al., 1991). Therefore, its effectiveness depends on whether owners and employees plan ahead. We suppose that the vision characteristic ‘future orientation’ matches high future orientation. The more owners foster future orientation in their businesses, the more effective the vision characteristic ‘future orientation’ is, because the

more organizational cultures emphasize “delaying gratification, planning, and investing in the future” (Javidan et al., 2004, p. 30), the more likely owners and employees are to plan ahead (Ashkanasy et al., 2004). In contrast, we suppose that the vision characteristic ‘future orientation’ does not match low future orientation. The less owners foster future orientation in their businesses, the less effective the vision characteristic ‘future orientation’ is, because the less organizational cultures emphasize “delaying gratification, planning, and investing in the future” (Javidan et al., 2004, p. 30), the less likely owners and employees are to plan ahead (Ashkanasy et al., 2004).

Hypothesis 3: Owners’ future orientation moderates the relationship between the vision characteristic ‘future orientation’ and business success. The more owners foster future orientation in their businesses, the stronger the relationship is.

Assertiveness. The vision characteristic ‘growth orientation’ implies that visions focus on business growth (Baum et al., 1998). As business growth is driven by competition (Aghion & Griffith, 2005), its effectiveness depends on whether owners and employees act competitively. We hypothesize that there is a match between the vision characteristic ‘growth orientation’ and high assertiveness. The more owners support assertiveness in their businesses, the more effective the vision characteristic ‘growth orientation’ is, because the more emphasis organizational cultures put on confrontation and aggressiveness (Javidan et al., 2004), the more likely owners and employees are to act competitively (Den Hartog, 2004). In contrast, we hypothesize that there is no match between the vision characteristic ‘growth orientation’ and low assertiveness. The less owners support assertiveness in their businesses, the less effective the vision characteristic ‘growth orientation’ is, because the less emphasis organizational cultures put on confrontation and aggressiveness (Javidan et al., 2004), the less likely owners and employees are to act competitively (Den Hartog, 2004).

Hypothesis 4: Owners’ assertiveness moderates the relationship between the vision characteristic ‘growth orientation’ and business success. The more owners support assertiveness in their businesses, the stronger the relationship is.

Power distance. The vision characteristic ‘clarity’ means that visions are understandable to employees (Locke et al., 1991; Nanus, 1992). As understanding brings about desire for empowerment (Conger & Kanungo, 1988), its effectiveness depends on whether owners empower employees. We suppose that the vision characteristic ‘clarity’ matches low power distance. The less owners promote power distance in their businesses, the more effective the

vision characteristic ‘clarity’ is, because the less organizational cultures emphasize acceptance of power being distributed unequally (Javidan et al., 2004), the more likely owners are to empower employees (Carl et al., 2004). In contrast, we suppose that the vision characteristic ‘clarity’ does not match high power distance. The more owners promote power distance in their businesses, the less effective the vision characteristic ‘clarity’ is, because the more organizational cultures emphasize acceptance of power being distributed unequally (Javidan et al., 2004), the less likely owners are to empower employees (Carl et al., 2004).

Hypothesis 5: Owners’ power distance moderates the relationship between the vision characteristic ‘clarity’ and business success. The less owners promote power distance in their businesses, the stronger the relationship is.

Uncertainty avoidance. The vision characteristic ‘stability’ signifies that visions are not subject to change (Locke et al., 1991). Thus, its effectiveness depends on whether owners and employees act steadily and persistently. We hypothesize that there is a match between the vision characteristic ‘stability’ and high uncertainty avoidance. The more owners foster uncertainty avoidance in their businesses, the more effective the vision characteristic ‘stability’ is, because the more emphasis organizational cultures put on reliance on “social norms, rules, and procedures” to prevent incertitude (Javidan et al., 2004, p. 30), the more likely owners and employees are to act steadily and persistently (Sully De Luque & Javidan, 2004). In contrast, we hypothesize that there is no match between the vision characteristic ‘stability’ and low uncertainty avoidance. The less owners foster uncertainty avoidance in their businesses, the less effective the vision characteristic ‘stability’ is, because the less emphasis organizational cultures put on reliance on “social norms, rules, and procedures” to prevent incertitude (Javidan et al., 2004, p. 30), the less likely owners and employees are to act steadily and persistently (Sully De Luque & Javidan, 2004).

Hypothesis 6: Owners’ uncertainty avoidance moderates the relationship between the vision characteristic ‘stability’ and business success. The more owners foster uncertainty avoidance in their businesses, the stronger the relationship is.

3.2. Cross-Cultural Differences in the Moderator Effects of Owners’ Cultural Orientations

We assume that cross-cultural differences in institutional collectivism, in-group collectivism, and the prevailing construal of the self may lead to cross-cultural differences in the moderator effects of owners’ cultural orientations. *Institutional collectivism* implies that

individuals engage in “collective distribution of resources and collective action”, whereas *in-group collectivism* means that individuals show “loyalty and cohesiveness” (Javidan et al., 2004, p. 30). The *interdependent construal of the self* signifies that individuals perceive themselves as connected with others and behave primarily with reference to the thoughts, feelings, and objectives of others, whereas the *independent construal of the self* signifies that individuals consider themselves as separate from others and behave primarily with reference to their own thoughts, feelings, and objectives (Markus & Kitayama, 1991).

Our hypotheses regarding the moderator effects of owners’ cultural orientations are based on the assumption that both owners’ practices and employees’ practices are conducive to the effectiveness of vision characteristics when there is a match between vision characteristics and owners’ cultural orientations, whereas neither owners’ practices nor employees’ practices are conducive to the effectiveness of vision characteristics when there is no match between vision characteristics and owners’ cultural orientations. However, this assumption may apply more in cultures that are high on institutional collectivism and in-group collectivism and in which the interdependent construal of the self prevails (referred to as ‘collectivist cultures’ in the following) than in cultures that are low on institutional collectivism and in-group collectivism and in which the independent construal of the self prevails (referred to as ‘individualistic cultures’ in the following):

Employees in collectivist cultures are more likely to engage in collective action with owners and to show loyalty toward them than employees in individualistic cultures (Gelfand et al., 2004). Moreover, employees in collectivist cultures are likely to perceive themselves as connected with owners and to behave primarily with reference to the thoughts, feelings, and objectives of owners, whereas employees in individualistic cultures are likely to consider themselves as separate from owners and to behave primarily with reference to their own thoughts, feelings, and objectives (Markus & Kitayama, 1991). Given these cross-cultural differences, employees in collectivist cultures are more likely to conform their practices to owners’ practices than employees in individualistic cultures. This means that it is more likely in collectivist cultures than in individualistic cultures that owners’ cultural orientations, which are manifested in owners’ practices, are reflected in employees’ practices. Thus, when there is a match between vision characteristics and owners’ cultural orientations, it is more likely in collectivist cultures than in individualistic cultures that both owners’ practices and employees’ practices are conducive to the effectiveness of vision characteristics. In contrast, when there is no match between vision characteristics and owners’ cultural orientations, it is more

likely in collectivist cultures than in individualistic cultures that neither owners' practices nor employees' practices are conducive to the effectiveness of vision characteristics.

We assume that the effectiveness of vision characteristics depends on whether both owners' practices and employees' practices are conducive to it. Therefore, we suppose that our hypotheses will receive more support in collectivist cultures than in individualistic cultures. To explore whether cross-cultural differences in institutional collectivism, in-group collectivism, and the prevailing construal of the self may lead to cross-cultural differences in the moderator effects of owners' cultural orientations, we tested our hypotheses in China, a culture that is high on institutional collectivism and in-group collectivism (Gelfand et al., 2004) and in which the interdependent construal of the self prevails (Markus & Kitayama, 1991), and in Germany, a culture that is low on institutional collectivism and in-group collectivism (Gelfand et al., 2004) and in which the independent construal of the self prevails (Markus & Kitayama, 1991). We suppose that our hypotheses will receive more support in China than in Germany.

3.3. Method

3.3.1. Participants

The sample comprised Chinese and German owners. Their businesses belonged to four industries, namely, information technology, hotel and catering, automobile, and construction. To participate in the study, the owners had to meet two criteria: First, they had to own (with shares of at least 10%) and manage their businesses. Second, they had to have at least one employee. There is a qualitative difference between owners who work alone and owners who have employees. The step from working alone to having employees implies a change in self-perception, responsibility, and managerial demands (Frese & de Kruif, 2000). We searched for participants in four provinces (Hubei, Hunan, Jiangsu, and Zhejiang) and two municipalities (Chongqing and Shanghai) in Eastern China and in one province (Hesse) in Western Germany. As a first strategy, we used the yellow pages as well as lists provided by the Chinese local government and the German chamber of commerce. As a second strategy, we relied on personal contacts with and recommendations of owners. The first strategy was more effective in Germany, whereas the second strategy was more effective in China.

Of the 458 owners who met the criteria for participation in China, 298 (65%) participated in the study. Of the 697 owners who met the criteria for participation in Germany, 290 (42%) participated in the study. The Chinese businesses belonged particularly to the automo-

bile industry (31%, $n = 93$), followed by the hotel and catering industry (24%, $n = 71$), the information technology industry (23%, $n = 69$), and the construction industry (22%, $n = 65$). The German businesses belonged particularly to the construction industry (36%, $n = 105$), followed by the information technology industry (24%, $n = 69$), the hotel and catering industry (23%, $n = 68$), and the automobile industry (17%, $n = 48$). Most of the Chinese and the German owners did not only own and manage their businesses but had also founded them (73%, $n = 217$, and 67%, $n = 194$, respectively). On average, the Chinese owners had 191 employees, whereas the German owners had 13 employees.²

3.3.2. Procedure and Measures

We interviewed the owners about the visions they had for their businesses and rated the owners' visions according to the vision characteristics. We also asked the owners to complete a questionnaire that included measures of their cultural orientations and their business success.

Vision characteristics. The interview scheme contained questions regarding the owners' visions. Interviewers were 20 Chinese and 20 German graduates and postgraduates of psychology and management who had received a comprehensive interviewer training. We asked the owners whether they had visions for their businesses and, if so, whether their visions were written or unwritten.³ Depending on whether their visions were written or unwritten, we asked the owners to copy or to write down their visions. The owners' visions formed the basis for the ratings. The rating scheme contained anchors for the vision characteristics 'challenge', 'social responsibility', 'future orientation', 'growth orientation', 'clarity', and 'stability'. A sample anchor was: 'High growth orientation: Strong reference to growth in profits, sales, employment, facilities, market shares, or product offerings.' The rating scales ranged from 1 to 10, with 1 indicating that a vision characteristic was not present at all and 10 indicating that a vision characteristic was present at a very high level. Raters were two Chi-

² The fact that the sample comprised both owners who had and owners who had not founded their businesses and the fact that the Chinese owners had considerably more employees than the German owners could have distorted the results. Therefore, we controlled for these facts.

³ Most of the 298 Chinese and 290 German owners who participated in the study had visions for their businesses, namely, 276 (93%) in China and 200 (69%) in Germany. Of the 276 Chinese visions, 51 (18%) were written and 225 (82%) were unwritten. Of the 200 German visions, 25 (12%) were written and 175 (88%) were unwritten.

nese and two German postgraduates of psychology who had received a comprehensive rater training. As inter-rater consistency measures, we used intraclass coefficients (Shrout & Fleiss, 1979). We determined the inter-rater consistency between the Chinese and the German raters based on their ratings of 20 Chinese and 20 German visions that had been translated into English. The intraclass coefficients ranged from .74 to .96. They are shown in Table 3-1. We also determined whether the Chinese raters were consistent in their ratings of the Chinese visions and whether the German raters were consistent in their ratings of the German visions. The intraclass coefficients ranged from .80 to .97 in the Chinese sample and from .83 to .96 in the German sample. They are also shown in Table 3-1.

Table 3-1

Intraclass Coefficients

Vision characteristic	China - Germany	China	Germany
Challenge	.85	.80	.89
Social responsibility	.96	.97	.96
Future orientation	.92	.87	.87
Growth orientation	.95	.94	.97
Clarity	.87	.84	.90
Stability	.74	.80	.83

Cultural orientations. To measure the owners' cultural orientations, we used scenario-based scales developed by König et al. (2007). Performance orientation, future orientation, assertiveness, and uncertainty avoidance were each assessed by three scenarios. Humane orientation and power distance were assessed by four and five scenarios, respectively. Each of the scenarios consisted of a concrete social situation (e.g., 'Imagine that you have to decide who among your employees will be promoted. What do you do?') and two behavioral options representing low and high scores on the cultural orientation to be assessed (e.g., 'You promote your employees based on their seniority.' and 'You promote your employees based on their performance.'). Between the two behavioral options, there were two mirror-inverted three-point scales ranging from 'somewhat true of me' (3/4) over 'very true of me' (2/5) to 'extremely true of me' (1/6).

The scales' coefficients alpha ranged from only .34 to .74 in the Chinese sample and from only .52 to .75 in the German sample. They are presented in Table 3-2. Coefficient alpha estimates internal consistency (Cronbach, 1951). Scenario-based scales tend to show lower internal consistencies than scales based on Likert items. Consisting of concrete social situations and behavioral options, scenarios capture more situational and behavioral aspects than Likert items, which consist of general abstract statements and standardized scale responses. Therefore, scenarios have higher specific variances that result in lower intercorrelations (Chan & Schmitt, 1997; Motowidlo et al., 1990). Test-retest reliability is assumed to be a more appropriate reliability estimate for scenario-based scales than coefficient alpha because test-retest reliability does not estimate internal consistency (Chan & Schmitt, 1997; Motowidlo et al., 1990). The scales' test-retest reliabilities, which had not been assessed in the Chinese sample, ranged from .73 to .78 in the German sample.⁴ They are also presented in Table 3-2.

Table 3-2

Reliabilities of the Scales Measuring Owners' Cultural Orientations

Cultural orientation	Coefficient alpha		Test-retest reliability
	China	Germany	Germany
Performance orientation	.34	.56	.75
Humane orientation	.63	.66	.73
Future orientation	.51	.62	.74
Assertiveness	.63	.74	.76
Power distance	.74	.75	.78
Uncertainty avoidance	.49	.52	.74

⁴ Six months after they had completed the scales for the first time, we asked 25 German owners to complete them a second time. The 22 German owners (88%) who agreed to do so formed the sub-sample for the assessment of the scales' test-retest reliabilities. The sub-sample was representative of the German sample.

Business success. To measure the owners' business success, we used an index that was formed of 13 items. Ten of the 13 items were adapted from Wiklund and Shepherd (2003). They assessed the owners' subjective business success in comparison to their competitors. The ten items were rather specific because they referred to financial and operational dimensions of business success. The financial dimensions were sales growth, revenue growth, growth in the number of employees, and net profit margin. The operational dimensions were product/service innovation, process innovation, adoption of new technology, product/service quality, product/service variety, and customer satisfaction. A sample item was: 'During the last three years, how did your business develop regarding sales growth in comparison to your two most important competitors?' The ten items were answered on five-point scales ranging from 'much worse' (1) to 'much better' (5). Three of the 13 items were adapted from Van Dyck, Frese, Baer, and Sonnentag (2005). They also assessed the owners' subjective business success in comparison to their competitors. The three items were rather general because they did not refer to financial and operational dimensions of business success. A sample item was: 'How successful is your business in comparison to other businesses in the same industry and of about the same size?' Two items were answered on five-point scales ranging from 'not at all' (1) to 'completely' (5), whereas one item was answered on a six-point scale ranging from 'I belong to the less successful half of the business owners' (1) to 'I am the most successful business owner' (6). Due to their different scalings, the 13 items were z-standardized before the index was formed.

Business success can be assessed using objective or subjective measures (Combs et al., 2005; Venkatraman & Ramanujam, 1986). Judged against objective measures, subjective measures hold convergent, discriminant, and construct validity (Wall et al., 2004). To provide some evidence for the convergent validity of the subjective measures we used to assess the dimensions of business success, we assessed two dimensions using objective measures as well. We asked the owners to indicate their sales and the number of their employees in the last three years. Then, we calculated the average growth in each of the two dimensions. The positive correlations between the subjective and the objective measures were significant, namely, $r = .27$ ($p < .01$) for sales growth and $r = .30$ ($p < .01$) for growth in the number of employees.

Control variables. The questionnaire also included single items that measured five control variables, namely, age of business, starting capital, industry, non-founder versus founder, and number of employees.⁵

3.3.3. Method of Analysis

In a first set of hierarchical multiple regression analyses (Aiken & West, 1991), we tested the three-way interaction effects of the vision characteristics, owners' cultural orientations, and 'China versus Germany' on business success. (The three-way interaction effects represent the combined moderator effects of owners' cultural orientations and 'China versus Germany' on the relationships between the vision characteristics and business success.) We performed joint regression analyses for the Chinese and the German samples. We structured regression equations that comprised four blocks: First, we included the control variables. Second, we entered the vision characteristics as independent variables and owners' cultural orientations and 'China versus Germany' as moderator variables.⁶ Third, we included the two-way interaction terms between the vision characteristics and owners' cultural orientations, between the vision characteristics and 'China versus Germany', and between owners' cultural orientations and 'China versus Germany'. Fourth, we entered the three-way interaction terms between the vision characteristics, owners' cultural orientations, and 'China versus Germany'.

In a second set of hierarchical multiple regression analyses (Aiken & West, 1991), we tested the two-way interaction effects of the vision characteristics and owners' cultural orientations on business success. (The two-way interaction effects represent the moderator effects of owners' cultural orientations on the relationships between the vision characteristics and business success.) If the three-way interaction effects were significant, that is, if there were Chinese-German differences in the two-way interaction effects, we performed separate regression analyses for the Chinese and the German samples. In contrast, if the three-way interaction effects were not significant, that is, if there were no Chinese-German differences in the two-way interaction effects, we performed joint regression analyses for the Chinese and the

⁵ Most of the 276 Chinese and 200 German owners who had visions for their businesses completed the questionnaire, namely, 215 (78%) in China and 130 (65%) in Germany. These 345 owners formed the sample for the analyses.

⁶ The categorical variables were represented with effect codes, whereas the continuous variables were z-standardized. This enabled us to interpret significant direct effects of variables as conditional effects at the average level of the other variables (Cohen, Cohen, West, & Aiken, 2003; West, Aiken, & Krull, 1996).

German samples and used ‘China versus Germany’ as an additional control variable. In both cases, we structured regression equations that comprised three blocks: First, we included the control variables. Second, we entered the vision characteristics as independent variables and owners’ cultural orientations as moderator variables. Third, we included the two-way interaction terms between the vision characteristics and owners’ cultural orientations.⁷

We had developed directional hypotheses regarding the three-way and the two-way interaction effects. Therefore, we determined their significance using one-tailed F tests if they were consistent with the directional hypotheses and exploratory two-tailed F tests if they were inconsistent with the directional hypotheses (Jaccard, Turrisi, & Wan, 1990). Three-way and two-way interaction effects are difficult to detect because the statistical power of interaction tests is low (McClelland & Judd, 1993). Measurement errors in the independent and the moderator variables reduce the reliability of the interaction terms between them. In turn, reduced reliability of the interaction terms between the independent and the moderator variables reduces the statistical power of interaction tests (Aiken & West, 1991). We limited the risk of type II errors by setting the significance level at .10 (Aguinis, 1995; Judd, McClelland, & Culhane, 1995). To interpret significant two-way interaction effects, we graphically displayed them by predicting values of the dependent variable for representative groups that scored at the mean and at one standard deviation below and above the mean of the independent and the moderator variables (Cohen et al., 2003; West et al., 1996).

⁷ Testing the two-way interaction effects of the vision characteristics and owners’ cultural orientations on business success in the first set of regression analyses would not have enabled us to determine their specific significance because, in this set, the third block of the regression equations included not only the two-way interaction terms between the vision characteristics and owners’ cultural orientations but also the two-way interaction terms between the vision characteristics and ‘China versus Germany’ and between owners’ cultural orientations and ‘China versus Germany’. In contrast, testing the two-way interaction effects of the vision characteristics and owners’ cultural orientations on business success in the second set of regression analyses enabled us to determine their specific significance because, in this set, the third block of the regression equations included only the two-way interaction terms between the vision characteristics and owners’ cultural orientations.

3.4. Results

3.4.1. Intercorrelations

The intercorrelations of the vision characteristics, owners' cultural orientations, and business success are presented in Table 3-3 on page 56.

Vision characteristics and business success. The vision characteristics 'challenge', 'social responsibility', 'future orientation', 'clarity', and 'stability' were not significantly correlated to business success either in China or Germany. In contrast, the positive correlation between the vision characteristic 'growth orientation' and business success was significant in Germany but not in China. The more their visions were characterized by growth orientation, the more successful German owners were. However, there was no significant Chinese-German difference in this correlation ($z = -0.69$, n.s.).

Owners' cultural orientations and business success. Owners' humane orientation and owners' uncertainty avoidance were not significantly correlated to business success either in China or Germany. In contrast, the positive correlation between owners' performance orientation and business success was significant both in China and Germany. The more Chinese and German owners supported performance orientation, the more successful they were. This correlation was not significantly different in China and Germany ($z = 0.32$, n.s.). The positive correlation between owners' future orientation and business success and the negative correlation between owners' power distance and business success were significant in China but not in Germany. The more Chinese owners promoted future orientation, and the less they promoted power distance, the more successful they were. However, there were no significant Chinese-German differences in these correlations ($z = 1.90$, n.s., and $z = -1.57$, n.s., respectively). The negative correlation between owners' assertiveness and business success was significant in Germany but not in China. The less German owners fostered assertiveness, the more successful they were. Again, however, this correlation was not significantly different in China and Germany ($z = 1.47$, n.s.).

3.4.2. Interaction Effects on Business Success

The three-way interaction effects of the vision characteristics, owners' cultural orientations, and 'China versus Germany' and the two-way interaction effects of the vision characteristics and owners' cultural orientations are shown in Table 3-4 on page 57.

Performance orientation. According to Hypothesis 1, owners' performance orientation moderates the relationship between the vision characteristic 'challenge' and business success; the more owners support performance orientation in their businesses, the stronger the relationship is. The three-way interaction effect of the vision characteristic 'challenge', owners' performance orientation, and 'China versus Germany' was significant ($\Delta R^2 = .02$, $B = -.11$, $p < .01$). Hence, there was a Chinese-German difference in the two-way interaction effect of the vision characteristic 'challenge' and owners' performance orientation. In China, the two-way interaction effect was significantly positive ($\Delta R^2 = .02$, $B = .11$, $p < .05$). The more Chinese owners supported performance orientation in their businesses, the stronger the relationship was between the vision characteristic 'challenge' and business success (Figure 3-1). In Germany, however, the two-way interaction effect was significantly negative ($\Delta R^2 = .03$, $B = -.10$, $p < .05$). The less German owners supported performance orientation in their businesses, the stronger the relationship was between the vision characteristic 'challenge' and business success (Figure 3-2). Thus, Hypothesis 1 was confirmed in China but not in Germany. The complete results of the hierarchical multiple regression analyses performed to test Hypothesis 1 are presented in Tables 3-5 and 3-6 on pages 58 and 59.

Figure 3-1

Two-Way Interaction Effect of the Vision Characteristic 'Challenge' and Owners' Performance Orientation (China)

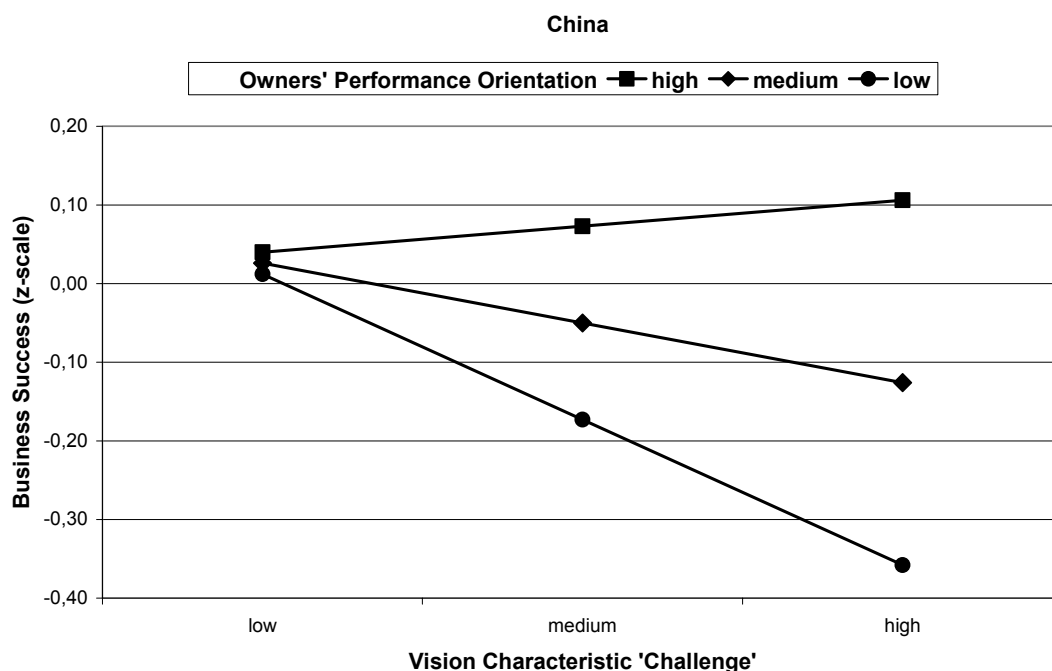
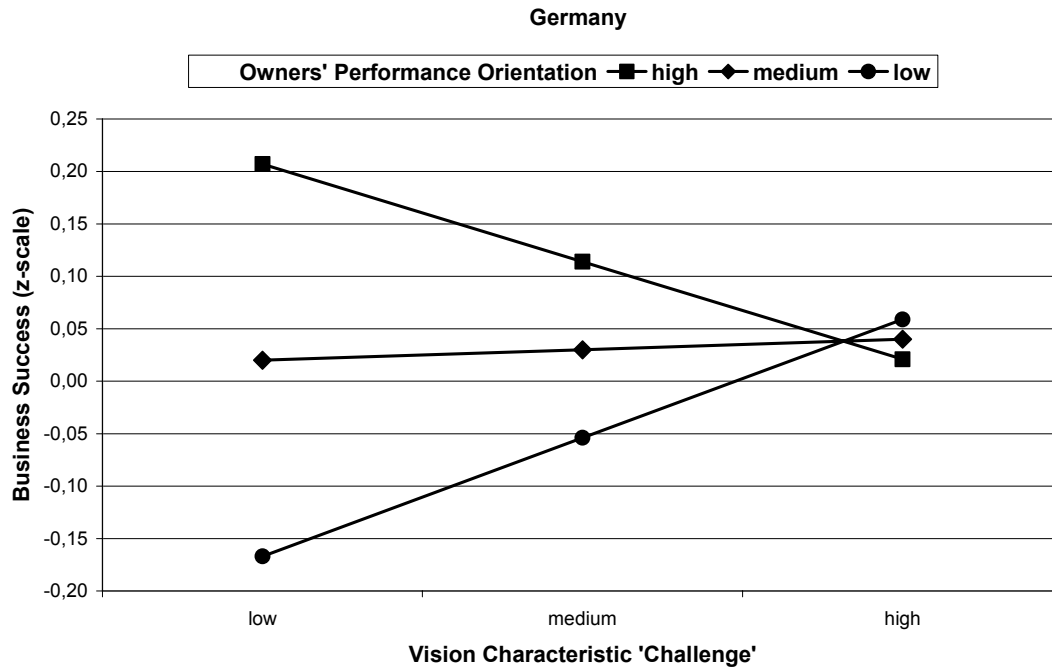


Figure 3-2

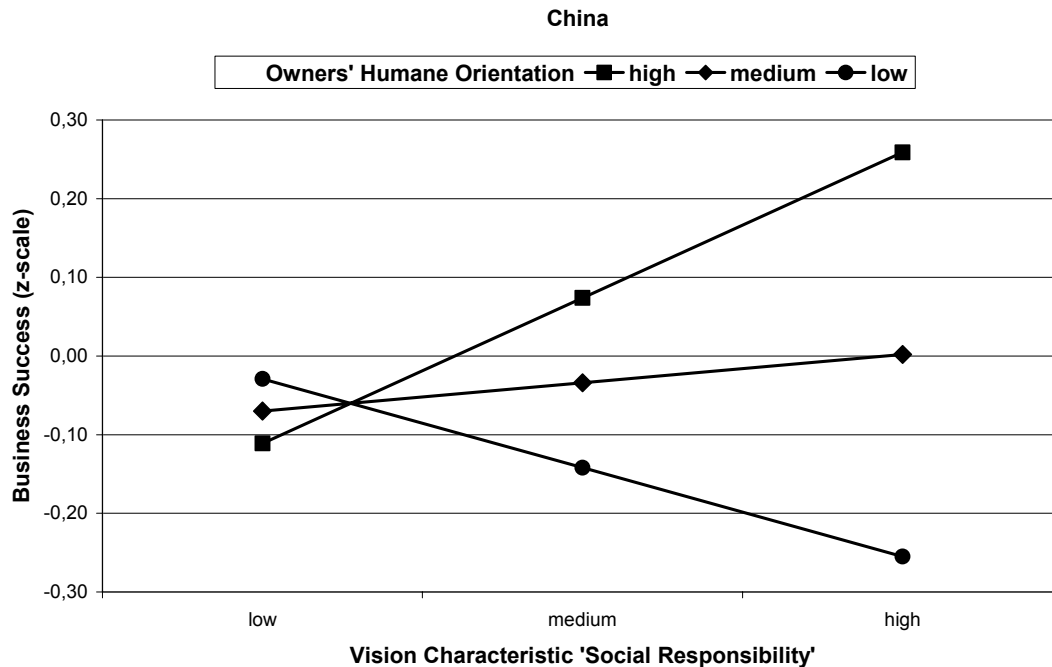
Two-Way Interaction Effect of the Vision Characteristic 'Challenge' and Owners' Performance Orientation (Germany)



Humane orientation. According to Hypothesis 2, owners' humane orientation moderates the relationship between the vision characteristic 'social responsibility' and business success; the more owners promote humane orientation in their businesses, the stronger the relationship is. The three-way interaction effect of the vision characteristic 'social responsibility', owners' humane orientation, and 'China versus Germany' was significant ($\Delta R^2 = .01$, $B = -.07$, $p < .10$). Hence, there was a Chinese-German difference in the two-way interaction effect of the vision characteristic 'social responsibility' and owners' humane orientation. In China, the two-way interaction effect was significantly positive ($\Delta R^2 = .02$, $B = .15$, $p < .05$). The more Chinese owners promoted humane orientation in their businesses, the stronger the relationship was between the vision characteristic 'social responsibility' and business success (Figure 3-3). In Germany, however, the two-way interaction effect was not significant ($\Delta R^2 = .00$, $B = -.03$, n.s.). Thus, Hypothesis 2 was supported in China but not in Germany. The full results of the hierarchical multiple regression analyses performed to test Hypothesis 2 are shown in Tables 3-7 and 3-8 on pages 60 and 61.

Figure 3-3

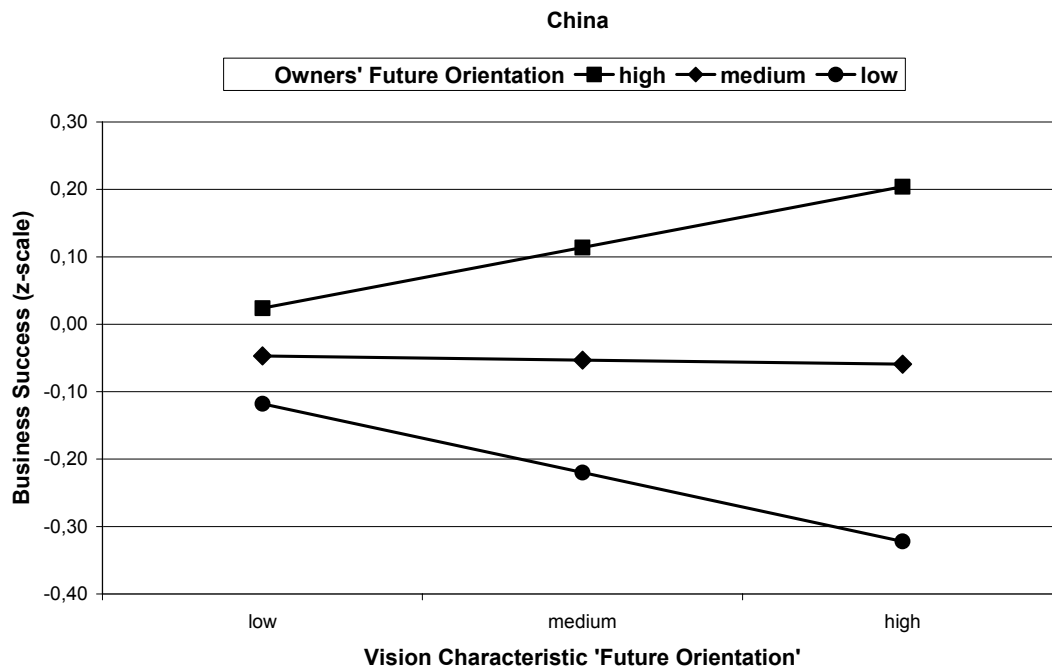
Two-Way Interaction Effect of the Vision Characteristic 'Social Responsibility' and Owners' Humane Orientation (China)



Future orientation. According to Hypothesis 3, owners' future orientation moderates the relationship between the vision characteristic 'future orientation' and business success; the more owners foster future orientation in their businesses, the stronger the relationship is. The three-way interaction effect of the vision characteristic 'future orientation', owners' future orientation, and 'China versus Germany' was significant ($\Delta R^2 = .01$, $B = -.05$, $p < .10$). Hence, there was a Chinese-German difference in the two-way interaction effect of the vision characteristic 'future orientation' and owners' future orientation. In China, the two-way interaction effect was significantly positive ($\Delta R^2 = .02$, $B = .10$, $p < .05$). The more Chinese owners fostered future orientation in their businesses, the stronger the relationship was between the vision characteristic 'future orientation' and business success (Figure 3-4). In Germany, however, the two-way interaction effect was not significant ($\Delta R^2 = .00$, $B = -.01$, n.s.). Thus, Hypothesis 3 was confirmed in China but not in Germany. The complete results of the hierarchical multiple regression analyses performed to test Hypothesis 3 are presented in Tables 3-9 and 3-10 on pages 62 and 63.

Figure 4

Two-Way Interaction Effect of the Vision Characteristic 'Future Orientation' and Owners' Future Orientation (China)

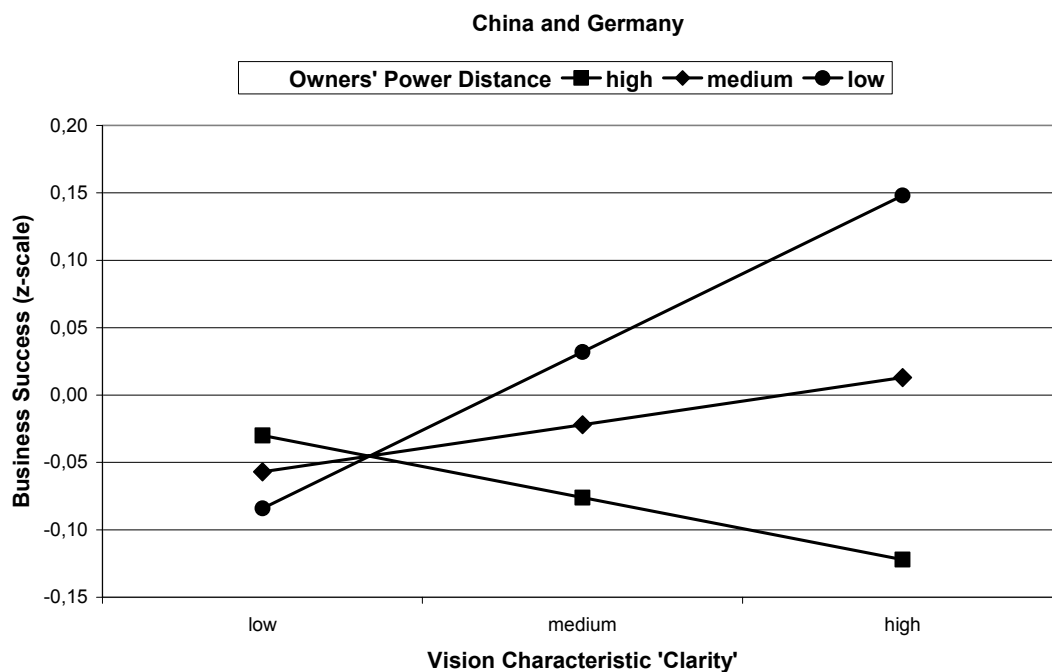


Assertiveness. According to Hypothesis 4, owners' assertiveness moderates the relationship between the vision characteristic 'growth orientation' and business success; the more owners support assertiveness in their businesses, the stronger the relationship is. The three-way interaction effect of the vision characteristic 'growth orientation', owners' assertiveness, and 'China versus Germany' was not significant ($\Delta R^2 = .01$, $B = .05$, n.s.). Hence, there was no Chinese-German difference in the two-way interaction effect of the vision characteristic 'growth orientation' and owners' assertiveness. The two-way interaction effect was not significant ($\Delta R^2 = .01$, $B = -.06$, n.s.). Thus, Hypothesis 4 was not supported. The full results of the hierarchical multiple regression analyses performed to test Hypothesis 4 are shown in Tables 3-11 and 3-12 on pages 64 and 65.

Power distance. According to Hypothesis 5, owners' power distance moderates the relationship between the vision characteristic clarity and business success; the less owners promote power distance in their businesses, the stronger the relationship is. The three-way interaction effect of the vision characteristic 'clarity', owners' power distance, and 'China versus Germany' was not significant ($\Delta R^2 = .01$, $B = -.06$, n.s.). Hence, there was no Chinese-German difference in the two-way interaction effect of the vision characteristic 'clarity' and owners' power distance. The two-way interaction effect was significantly negative ($\Delta R^2 = .01$, $B = -.08$, $p < .05$). The less Chinese and German owners promoted power distance in their businesses, the stronger the relationship was between the vision characteristic 'clarity' and business success (Figure 3-5). Thus, Hypothesis 5 was confirmed. The complete results of the hierarchical multiple regression analyses performed to test Hypothesis 5 are presented in Tables 3-13 and 3-14 on pages 66 and 67.

Figure 3-5

Two-Way Interaction Effect of the Vision Characteristic 'Clarity' and Owners' Power Distance (China and Germany)



Uncertainty avoidance. According to Hypothesis 6, owners' uncertainty avoidance moderates the relationship between the vision characteristic 'stability' and business success; the more owners foster uncertainty avoidance in their businesses, the stronger the relationship is. The three-way interaction effect of the vision characteristic 'stability', owners' uncertainty avoidance, and 'China versus Germany' was significant ($\Delta R^2 = .02$, $B = -.09$, $p < .05$). Hence, there was a Chinese-German difference in the two-way interaction effect of the vision characteristic 'stability' and owners' uncertainty avoidance. In China, the two-way interaction effect was significantly positive ($\Delta R^2 = .01$, $B = .08$, $p < .10$). The more Chinese owners fostered uncertainty avoidance in their businesses, the stronger the relationship was between the vision characteristic 'stability' and business success (Figure 3-6). In Germany, however, the two-way interaction effect was significantly negative ($\Delta R^2 = .03$, $B = -.09$, $p < .10$). The less German owners fostered uncertainty avoidance in their businesses, the stronger the relationship was between the vision characteristic 'stability' and business success (Figure 3-7). Thus, Hypothesis 6 was supported in China but not in Germany. The full results of the hierarchical multiple regression analyses performed to test Hypothesis 6 are shown in Tables 3-15 and 3-16 on pages 68 and 69.

Figure 3-6

Two-Way Interaction Effect of the Vision Characteristic 'Stability' and Owners' Uncertainty Avoidance (China)

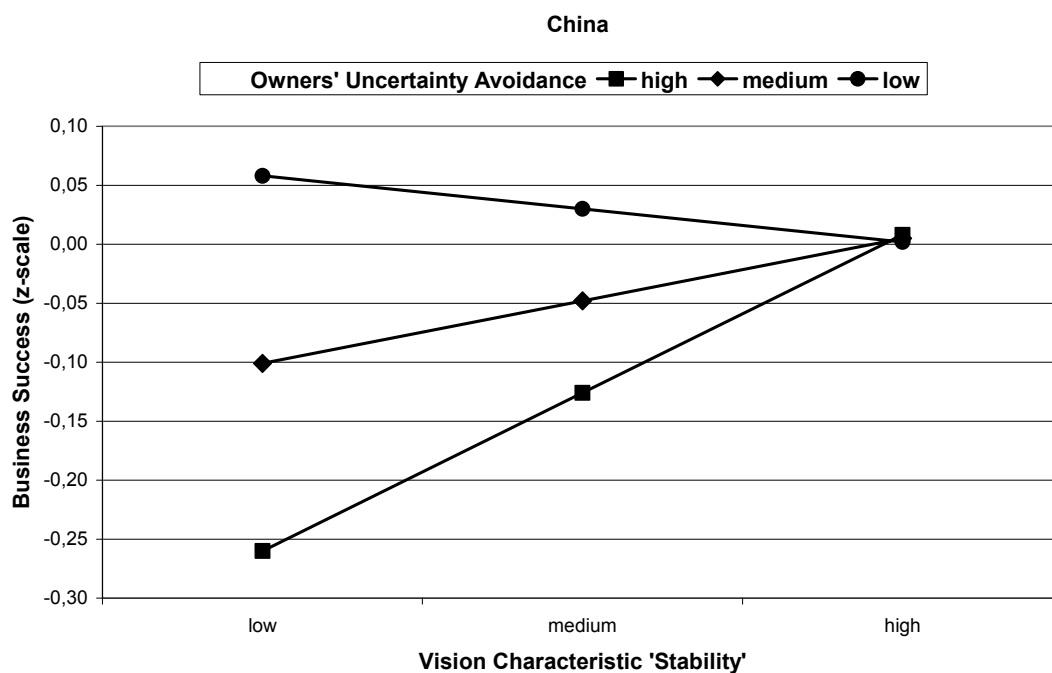
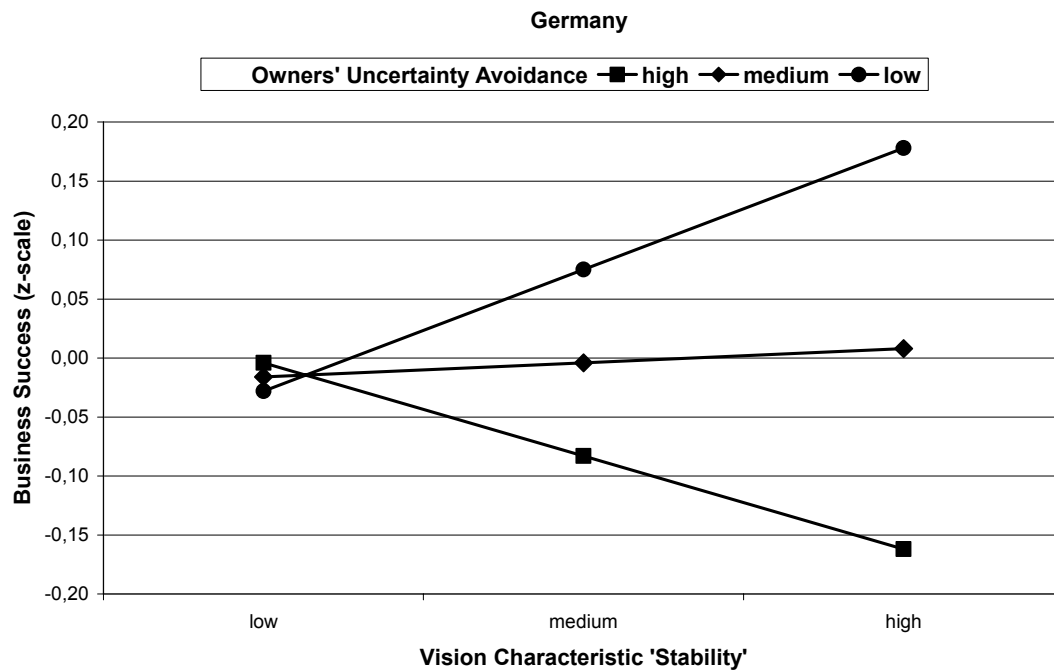


Figure 7

Two-Way Interaction Effect of the Vision Characteristic 'Stability' and Owners' Uncertainty Avoidance (Germany)



(To be continued on page 70.)

Table 3-3

Intercorrelations of the Vision Characteristics, Owners' Cultural Orientations, and Business Success

	01	02	03	04	05	06	07	08	09	10	11	12	13
01 Challenge		.03	.30**	.14*	.13*	.23**	.08	.10	.00	-.01	-.11	-.03	-.08
02 Social responsibility	-.08		.15*	-.06	.00	.25**	.04	-.07	-.01	.04	.05	.11	-.01
03 Future orientation	.25**	.06		.00	-.01	.40**	.02	.08	-.03	.02	-.12	-.13	-.06
04 Growth orientation	.47**	-.14	.01		.11	.13*	-.05	.07	-.14	-.05	-.04	-.04	.10
05 Clarity	.09	-.01	.02	.18*		.15*	.03	.03	.05	-.00	.01	.06	.04
06 Stability	.06	.26**	.50**	-.18**	.03		.05	.01	.04	.06	-.05	.05	.02
07 Performance orientation	.26**	-.23*	.15	.10	.03	.20*		.21**	.18**	-.04	-.14*	.06	.19**
08 Humane orientation	-.04	.15	.02	-.12	.05	.08	-.09		.39**	-.14*	-.30**	-.15*	.09
09 Future orientation	-.00	.07	.09	-.05	-.14	.16	.17*	.25**		-.13*	-.25**	-.13*	.21**
10 Assertiveness	.02	.02	.01	-.06	-.04	-.09	-.11	-.30**	-.16*		.40**	.12	-.04
11 Power distance	.08	-.13	-.01	.14	.09	-.09	.16*	-.42**	-.27**	.06		.16*	-.17**
12 Uncertainty avoidance	-.08	-.15	-.03	.15	.06	-.02	-.13	-.29**	-.33**	.13	.42**		-.12
13 Business success	.10	-.08	.05	.17*	.05	.03	.16*	.09	.03	-.18*	-.02	-.14	

Note. * = $p < .05$, ** = $p < .01$. The values above the diagonal refer to China, whereas the values below the diagonal refer to Germany.

Table 3-4

Three-Way Interaction Effects of the Vision Characteristics, Owners' Cultural Orientations, and 'China versus Germany', and Two-Way Interaction Effects of the Vision Characteristics and Owners' Cultural Orientations

Vision characteristic	Cultural orientation	Three-way interaction effect	Two-way interaction effect ^{c)}	
Challenge	Performance orientation	$B = -.11, \Delta R^2 = .02^{**}$ ^{a)}	$B = .11, \Delta R^2 = .02^*$ ^{a)}	$B = -.10, \Delta R^2 = .03^*$ ^{b)}
Social responsibility	Humane orientation	$B = -.07, \Delta R^2 = .01^+$ ^{a)}	$B = .15, \Delta R^2 = .02^*$ ^{a)}	$B = -.03, \Delta R^2 = .00$ ^{b)}
Future orientation	Future orientation	$B = -.05, \Delta R^2 = .01^+$ ^{a)}	$B = .10, \Delta R^2 = .02^*$ ^{a)}	$B = -.01, \Delta R^2 = .00$ ^{b)}
Growth orientation	Assertiveness	$B = .05, \Delta R^2 = .01$ ^{b)}	$B = -.06, \Delta R^2 = .01$ ^{b)}	
Clarity	Power distance	$B = -.06, \Delta R^2 = .01$ ^{b)}	$B = -.08, \Delta R^2 = .01^*$ ^{a)}	
Stability	Uncertainty avoidance	$B = -.09, \Delta R^2 = .02^*$ ^{a)}	$B = .08, \Delta R^2 = .01^+$ ^{a)}	$B = -.09, \Delta R^2 = .03^+$ ^{b)}

Note. ⁺ $p < .10$, $*$ $p < .05$, $**$ $p < .01$. ^{a)} Interaction effect consistent with directional hypothesis. One-tailed F test. ^{b)} Interaction effect inconsistent with directional hypothesis. Exploratory two-tailed F test. ^{c)} Whenever two sets of values are given, the first set refers to China, whereas the second set refers to Germany.

Table 3-5

Hierarchical Multiple Regression Analysis Testing the Three-Way Interaction Effect of the Vision Characteristic 'Challenge', Owners' Performance Orientation, and 'China versus Germany'

	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>
	Block 1	Block 2	Block 3	Block 4
Control variables				
age of business	-.01	-.02	-.02	-.02
start-up capital (in €)	.02	.02	.02	.02
non-founder versus founder	.03	.03	.03	.02
number of employees	.12**	.12**	.12**	.11**
industry (effect code variable 1)	-.11	-.09	-.09	-.09
industry (effect code variable 2)	.09	.08	.07	.07
industry (effect code variable 3)	.01	.00	.00	-.00
Independent and moderator variables				
visions' challenge	-	-.03	-.02	-.03
owners' performance orientation	-	.11**	.10**	.10**
China versus Germany	-	.01	.01	.03
Two-way interaction terms				
visions' challenge x owners' performance orientation	-	-	.01	.01
visions' challenge x China versus Germany	-	-	.05	.04
owners' performance orientation x China versus Germany	-	-	-.03	-.03
Three-way interaction term				
visions' challenge x owners' performance orientation x China versus Germany	-	-	-	-.11** ^{a)}
	$\Delta R^2 = .05^*$	$\Delta R^2 = .03^*$	$\Delta R^2 = .01$	$\Delta R^2 = .02^{**}$

Note. ⁺ $p < .10$, * $p < .05$, ** $p < .01$. ^{a)} Three-way interaction effect consistent with directional hypothesis. One-tailed F test.

Table 3-6

Hierarchical Multiple Regression Analysis Testing the Two-Way Interaction Effect of the Vision Characteristic 'Challenge' and Owners' Performance Orientation

	<i>B</i>		<i>B</i>		<i>B</i>	
	Block 1		Block 2		Block 3	
	China	Germany	China	Germany	China	Germany
Control variables						
age of business	.05	-.08	.04	-.08	.05	-.09
start-up capital (in €)	.01	.02	.02	.02	.01	.01
nonfounder versus founder	.04	.01	.05	-.00	.04	-.02
number of employees	.12*	.11*	.12*	.10 ⁺	.09	.09 ⁺
industry (effect code variable 1)	-.15	-.03	-.13	-.01	-.13	-.01
industry (effect code variable 2)	.16 ⁺	-.04	.13	-.04	.13	-.03
industry (effect code variable 3)	.07	-.03	.07	-.04	.07	-.05
Independent and moderator variables						
visions' challenge	-	-	-.07	.03	-.08	.01
owners' performance orientation	-	-	.12*	.08	.12*	.08
Two-way interaction term						
visions' challenge x owners' performance orientation	-	-	-	-	.11* ^{a)}	-.10* ^{b)}
	$\Delta R^2 = .09^*$	$\Delta R^2 = .06$	$\Delta R^2 = .03^*$	$\Delta R^2 = .03$	$\Delta R^2 = .02^*$	$\Delta R^2 = .03^*$

Note. ⁺ $p < .10$, * $p < .05$, ** $p < .01$. ^{a)} Two-way interaction effect consistent with directional hypothesis. One-tailed F test. ^{b)} Two-way interaction effect inconsistent with directional hypothesis. Exploratory two-tailed F test.

Table 3-7

Hierarchical Multiple Regression Analysis Testing the Three-Way Interaction Effect of the Vision Characteristic ‘Social Responsibility’, Owners’ Humane Orientation, and ‘China versus Germany’

	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>
	Block 1	Block 2	Block 3	Block 4
Control variables				
age of business	-.01	-.01	-.01	-.01
start-up capital (in €)	.02	.01	.01	.01
non-founder versus founder	.03	.03	.03	.03
number of employees	.12**	.12**	.12**	.12**
industry (effect code variable 1)	-.11	-.12 ⁺	-.12 ⁺	-.12 ⁺
industry (effect code variable 2)	.09	.10	.10	.10
industry (effect code variable 3)	.01	.01	.02	.01
Independent and moderator variables				
visions’ social responsibility	-	-.03	-.04	-.02
owners’ humane orientation	-	.07 ⁺	.08*	.08*
China versus Germany	-	.01	.00	.01
Two-way interaction terms				
visions’ social responsibility x owners’ humane orientation	-	-	.05	.05
visions’ social responsibility x China versus Germany	-	-	-.04	-.04
owners’ humane orientation x China versus Germany	-	-	-.01	-.02
Three-way interaction term				
visions’ social responsibility x owners’ humane orientation x China versus Germany	-	-	-	-.07 ⁺ a)
	$\Delta R^2 = .05^*$	$\Delta R^2 = .01$	$\Delta R^2 = .01$	$\Delta R^2 = .01^+$

Note. ⁺ $p < .10$, * $p < .05$, ** $p < .01$. a) Three-way interaction effect consistent with directional hypothesis. One-tailed F test.

Table 3-8

Hierarchical Multiple Regression Analysis Testing the Two-Way Interaction Effect of the Vision Characteristic ‘Social Responsibility’ and Owners’ Humane Orientation

	<i>B</i>		<i>B</i>		<i>B</i>	
	Block 1		Block 2		Block 3	
	China	Germany	China	Germany	China	Germany
Control variables						
age of business	.05	-.08	.05	-.08	.07	-.08
start-up capital (in €)	.01	.02	.02	.01	.02	.01
non-founder versus founder	.04	.01	.05	.01	.04	.01
number of employees	.12*	.11*	.12*	.11*	.11 ⁺	.11*
industry (effect code variable 1)	-.15	-.03	-.17	-.04	-.15	-.04
industry (effect code variable 2)	.16 ⁺	-.04	.17 ⁺	-.05	.16 ⁺	-.05
industry (effect code variable 3)	.07	-.03	.07	-.02	.08	-.02
Independent and moderator variables						
visions’ social responsibility	-	-	.01	-.06	.04	-.06
owners’ humane orientation	-	-	.09 ⁺	.07	.11*	.07
Two-way interaction term						
visions’ social responsibility x owners’ humane orientation	-	-	-	-	.15* ^{a)}	-.03 ^{b)}
	$\Delta R^2 = .09^*$	$\Delta R^2 = .06$	$\Delta R^2 = .02$	$\Delta R^2 = .02$	$\Delta R^2 = .02^*$	$\Delta R^2 = .00$

Note. ⁺ $p < .10$, * $p < .05$, ** $p < .01$. ^{a)} Two-way interaction effect consistent with directional hypothesis. One-tailed F test. ^{b)} Two-way interaction effect inconsistent with directional hypothesis. Exploratory two-tailed F test.

Table 3-9

Hierarchical Multiple Regression Analysis Testing the Three-Way Interaction Effect of the Vision Characteristic 'Future Orientation', Owners' Future Orientation, and 'China versus Germany'

	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>
	Block 1	Block 2	Block 3	Block 4
Control variables				
age of business	-.01	-.02	-.02	-.01
start-up capital (in €)	.02	.01	.02	.02
non-founder versus founder	.03	.03	.04	.04
number of employees	.12**	.13**	.13**	.13**
industry (effect code variable 1)	-.11	-.11 ⁺	-.12 ⁺	-.12 ⁺
industry (effect code variable 2)	.09	.11	.11	.11
industry (effect code variable 3)	.01	-.00	.00	.00
Independent and moderator variables				
visions' future orientation	-	.00	.02	.02
owners' future orientation	-	.10**	.09*	.09*
China versus Germany	-	.01	.01	.01
Two-way interaction terms				
visions' future orientation x owners' future orientation	-	-	.04	.03
visions' future orientation x China versus Germany	-	-	.04	.03
owners' future orientation x China versus Germany	-	-	-.07 ⁺	-.07 ⁺
Three-way interaction term				
visions' future orientation x owners' future orientation x China versus Germany	-	-	-	-.05 ⁺ a)
	$\Delta R^2 = .05^*$	$\Delta R^2 = .02^+$	$\Delta R^2 = .02$	$\Delta R^2 = .01^+$

Note. ⁺ $p < .10$, * $p < .05$, ** $p < .01$. ^{a)} Three-way interaction effect consistent with directional hypothesis. One-tailed F test.

Table 3-10

Hierarchical Multiple Regression Analysis Testing the Two-Way Interaction Effect of the Vision Characteristic 'Future Orientation' and Owners' Future Orientation

	<i>B</i>		<i>B</i>		<i>B</i>	
	Block 1		Block 2		Block 3	
	China	Germany	China	Germany	China	Germany
Control variables						
age of business	.05	-.08	.04	-.08	.05	-.08
start-up capital (in €)	.01	.02	.02	.02	.01	.02
non-founder versus founder	.04	.01	.07	.01	.07	.01
number of employees	.12*	.11*	.13*	.12*	.12*	.12*
industry (effect code variable 1)	-.15	-.03	-.17 ⁺	-.03	-.18 ⁺	-.03
industry (effect code variable 2)	.16 ⁺	-.04	.19*	-.05	.18*	-.05
industry (effect code variable 3)	.07	-.03	.07	-.03	.08	-.03
Independent and moderator variables						
visions' future orientation	-	-	-.03	.06	-.01	.06
owners' future orientation	-	-	.17**	.02	.17**	.02
Two-way interaction term						
visions' future orientation x owners' future orientation	-	-	-	-	.10* ^{a)}	-.01 ^{b)}
	$\Delta R^2 = .09^*$	$\Delta R^2 = .06$	$\Delta R^2 = .06^{**}$	$\Delta R^2 = .01$	$\Delta R^2 = .02^*$	$\Delta R^2 = .00$

Note. ⁺ $p < .10$, * $p < .05$, ** $p < .01$. ^{a)} Two-way interaction effect consistent with directional hypothesis. One-tailed F test. ^{b)} Two-way interaction effect inconsistent with directional hypothesis. Exploratory two-tailed F test.

Table 3-11

Hierarchical Multiple Regression Analysis Testing the Three-Way Interaction Effect of the Vision Characteristic 'Growth Orientation', Owners' Assertiveness, and 'China versus Germany'

	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>
	Block 1	Block 2	Block 3	Block 4
Control variables				
age of business	-.01	-.02	-.02	-.02
start-up capital (in €)	.02	.01	.00	.00
non-founder versus founder	.03	.02	.02	.03
number of employees	.12**	.12**	.13**	.12**
industry (effect code variable 1)	-.11	-.13 ⁺	-.12 ⁺	-.11 ⁺
industry (effect code variable 2)	.09	.09	.10	.09
industry (effect code variable 3)	.01	.02	.02	.01
Independent and moderator variables				
visions' growth orientation	-	.07 ⁺	.07 ⁺	.07*
owners' assertiveness	-	-.06 ⁺	-.07 ⁺	-.07 ⁺
China versus Germany	-	.01	.01	.01
Two-way interaction terms				
visions' growth orientation x owners' assertiveness	-	-	-.06	-.05
visions' growth orientation x China versus Germany	-	-	.01	.01
owners' assertiveness x China versus Germany	-	-	-.04	-.04
Three-way interaction term				
visions' growth orientation x owners' assertiveness x China versus Germany	-	-	-	.05 ^{a)}
	$\Delta R^2 = .05^*$	$\Delta R^2 = .02^+$	$\Delta R^2 = .01$	$\Delta R^2 = .01$

Note. ⁺ $p < .10$, * $p < .05$, ** $p < .01$. ^{a)} Three-way interaction effect inconsistent with directional hypothesis. Exploratory two-tailed F test.

Table 3-12

Hierarchical Multiple Regression Analysis Testing the Two-Way Interaction Effect of the Vision Characteristic 'Growth Orientation' and Owners' Assertiveness

	<i>B</i>	<i>B</i>	<i>B</i>
	Block 1	Block 2	Block 3
	China and Germany	China and Germany	China and Germany
Control variables			
age of business	-.01	-.02	-.02
start-up capital (in €)	.02	.01	.00
non-founder versus founder	.03	.02	.02
number of employees	.12*	.12*	.13*
industry (effect code variable 1)	-.11	-.13 ⁺	-.12 ⁺
industry (effect code variable 2)	.09	.08	.09
industry (effect code variable 3)	.00	.02	.02
China versus Germany	.01	.01	.01
Independent and moderator variables			
visions' growth orientation	-	.07 ⁺	.07 ⁺
owners' assertiveness	-	-.07 ⁺	-.07 ⁺
Two-way interaction term			
visions' growth orientation x owners' assertiveness	-	-	-.06 ^{a)}
	$\Delta R^2 = .05^+$	$\Delta R^2 = .02^*$	$\Delta R^2 = .01$

Note. ⁺ $p < .10$, * $p < .05$, ** $p < .01$. ^{a)} Two-way interaction effect inconsistent with directional hypothesis. Exploratory two-tailed F test.

Table 3-13

Hierarchical Multiple Regression Analysis Testing the Three-Way Interaction Effect of the Vision Characteristic 'Clarity', Owners' Power Distance, and 'China versus Germany'

	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>
	Block 1	Block 2	Block 3	Block 4
Control variables				
age of business	-.01	-.02	-.03	-.03
start-up capital (in €)	.02	.02	.02	.02
non-founder versus founder	.03	.03	.03	.03
number of employees	.12**	.13**	.12**	.12**
industry (effect code variable 1)	-.11	-.10	-.10	-.11
industry (effect code variable 2)	.09	.08	.07	.08
industry (effect code variable 3)	.01	.01	.01	.00
Independent and moderator variables				
visions' clarity	-	.04	.03	.03
owners' power distance	-	-.07 ⁺	-.05	-.04
China versus Germany	-	.01	.01	.02
Two-way interaction terms				
visions' clarity x owners' power distance	-	-	-.08 ⁺	-.09 ⁺
visions' clarity x China versus Germany	-	-	-.00	-.00
owners' power distance x China versus Germany	-	-	.06	.07 ⁺
Three-way interaction term				
visions' clarity x owners' power distance x China versus Germany	-	-	-	-.06 ^{a)}
	$\Delta R^2 = .05^*$	$\Delta R^2 = .01$	$\Delta R^2 = .02$	$\Delta R^2 = .01$

Note. ⁺ $p < .10$, * $p < .05$, ** $p < .01$. ^{a)} Two-way interaction effect inconsistent with directional hypothesis. Exploratory two-tailed F test.

Table 3-14

Hierarchical Multiple Regression Analysis Testing the Two-Way Interaction Effect of the Vision Characteristic 'Clarity' and Owners' Power Distance

	<i>B</i>	<i>B</i>	<i>B</i>
	Block 1	Block 2	Block 3
	China and Germany	China and Germany	China and Germany
Control variables			
age of business	-.01	-.02	-.03
start-up capital (in €)	.02	.02	.02
non-founder versus founder	.03	.03	.03
number of employees	.12*	.13*	.12*
industry (effect code variable 1)	-.11	-.11	-.09
industry (effect code variable 2)	.09	.08	.08
industry (effect code variable 3)	.00	.01	.00
China versus Germany	.01	.01	.01
Independent and moderator variables			
visions' clarity	-	.04	.04
owners' power distance	-	-.07 ⁺	-.05
Two-way interaction term			
visions' clarity x owners' power distance	-	-	-.08* ^{a)}
	$\Delta R^2 = .05^+$	$\Delta R^2 = .01$	$\Delta R^2 = .01^*$

Note. ⁺ $p < .10$, * $p < .05$, ** $p < .01$. ^{a)} Two-way interaction effect consistent with directional hypothesis. One-tailed F test.

Table 3-15

Hierarchical Multiple Regression Analysis Testing the Three-Way Interaction Effect of the Vision Characteristic 'Stability', Owners' Uncertainty Avoidance, and 'China versus Germany'

	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>
	Block 1	Block 2	Block 3	Block 4
Control variables				
age of business	-.01	-.01	-.01	-.02
start-up capital (in €)	.02	.02	.02	.02
non-founder versus founder	.03	.03	.03	.03
number of employees	.12**	.13**	.13**	.12**
industry (effect code variable 1)	-.11	-.09	-.09	-.10
industry (effect code variable 2)	.09	.09	.08	.08
industry (effect code variable 3)	.01	-.01	-.01	-.01
Independent and moderator variables				
visions' stability	-	.02	.02	.04
owners' uncertainty avoidance	-	-.08*	-.08*	-.07 ⁺
China versus Germany	-	.01	.01	.01
Two-way interaction terms				
visions' stability x owners' uncertainty avoidance	-	-	-.00	.00
visions' stability x China versus Germany	-	-	.00	-.03
owners' uncertainty avoidance x China versus Germany	-	-	.01	.01
Three-way interaction term				
visions' stability x owners' uncertainty avoidance x China versus Germany	-	-	-	-.09* ^{a)}
	$\Delta R^2 = .05^*$	$\Delta R^2 = .01$	$\Delta R^2 = .00$	$\Delta R^2 = .02^*$

Note. ⁺ $p < .10$, * $p < .05$, ** $p < .01$. ^{a)} Three-way interaction effect consistent with directional hypothesis. One-tailed F test.

Table 3-16

Hierarchical Multiple Regression Analysis Testing the Two-Way Interaction Effect of the Vision Characteristic 'Stability' and Owners' Uncertainty Avoidance

	<i>B</i>		<i>B</i>		<i>B</i>	
	Block 1		Block 2		Block 3	
	China	Germany	China	Germany	China	Germany
Control variables						
age of business	.05	-.08	.05	-.08	.05	-.08
start-up capital (in €)	.01	.02	.01	.03	.02	.03
non-founder versus founder	.04	.01	.05	.00	.05	-.01
number of employees	.12*	.11*	.12*	.11 ⁺	.11 ⁺	.11 ⁺
industry (effect code variable 1)	-.15	-.03	-.14	.01	-.14	-.02
industry (effect code variable 2)	.16 ⁺	-.04	.15	-.05	.14	-.05
industry (effect code variable 3)	.07	-.03	.07	-.06	.07	-.06
Independent and moderator variables						
visions' stability	-	-	.01	.03	.05	.01
owners' uncertainty avoidance	-	-	-.08	-.09	-.08	-.08
Two-way interaction term						
visions' stability x owners' uncertainty avoidance	-	-	-	-	.08 ⁺ ^{a)}	-.09 ⁺ ^{b)}
	$\Delta R^2 = .09^*$	$\Delta R^2 = .06$	$\Delta R^2 = .01$	$\Delta R^2 = .02$	$\Delta R^2 = .01^+$	$\Delta R^2 = .03^+$

Note. ⁺ $p < .10$, * $p < .05$, ** $p < .01$. ^{a)} Two-way interaction effect consistent with directional hypothesis. One-tailed F test. ^{b)} Two-way interaction effect inconsistent with directional hypothesis. Exploratory two-tailed F test.

3.5. Discussion

We assumed that owners' cultural orientations moderate the relationships between vision characteristics and business success. This assumption implied that the effectiveness of vision characteristics depends on whether they match owners' cultural orientations. We developed hypotheses regarding the moderator effects of six cultural orientations, namely, performance orientation, humane orientation, future orientation, assertiveness, power distance, and uncertainty avoidance. We hypothesized that each of the six cultural orientations moderates the relationship between one vision characteristic and business success. The six vision characteristics were 'challenge', 'social responsibility', 'future orientation', 'growth orientation', 'clarity', and 'stability'. Further, we assumed that cross-cultural differences in institutional collectivism, in-group collectivism, and the prevailing construal of the self may lead to cross-cultural differences in the moderator effects of owners' cultural orientations. We supposed that our hypotheses would receive more support in collectivist cultures than in individualistic cultures. Therefore, we tested our hypotheses in China, a culture that is high on institutional collectivism and in-group collectivism and in which the interdependent construal of the self prevails, and in Germany, a culture that is low on institutional collectivism and in-group collectivism and in which the independent construal of the self prevails. We supposed that our hypotheses would receive more support in China than in Germany.

In China, the moderator effects of five cultural orientations were significant. All of them were consistent with our hypotheses, namely, the positive moderator effect of owners' performance orientation on the relationship between the vision characteristic 'challenge' and business success, the positive moderator effect of humane orientation on the relationship between the vision characteristic 'social responsibility' and business success, the positive moderator effect of owners' future orientation on the relationship between the vision characteristic 'future orientation' and business success, the negative moderator effect of owners' power distance on the relationship between the vision characteristic 'clarity' and business success, and the positive moderator effect of owners' uncertainty avoidance on the relationship between the vision characteristic 'stability' and business success. In Germany, the moderator effects of three cultural orientations were significant. One of them was consistent with our hypothesis, namely, the negative moderator effect of owners' power distance on the relationship between the vision characteristic 'clarity' and business success, whereas two of them were inconsistent with our hypotheses, namely, the negative moderator effect of owners'

performance orientation on the relationship between the vision characteristic ‘challenge’ and business success and the negative moderator effect of owners’ uncertainty avoidance on the relationship between the vision characteristic ‘stability’ and business success. To summarize, five of our hypotheses were confirmed in China, whereas only one of our hypotheses was confirmed in Germany. Thus, our hypotheses received, indeed, more support in China than in Germany.

Our hypotheses were based on the assumption that both owners’ practices and employees’ practices are conducive to the effectiveness of vision characteristics when there is a match between vision characteristics and owners’ cultural orientations, whereas neither owners’ practices nor employees’ practices are conducive to the effectiveness of vision characteristics when there is no match between vision characteristics and owners’ cultural orientations. However, this assumption may apply more in China than in Germany: Given the Chinese-German differences in institutional collectivism, in-group collectivism, and the prevailing construal of the self, Chinese employees are more likely to conform their practices to owners’ practices than German employees. This means that it is more likely in China than in Germany that owners’ cultural orientations, which are manifested in owners’ practices, are reflected in employees’ practices. Thus, when there is a match between vision characteristics and owners’ cultural orientations, it is more likely in China than in Germany that both owners’ practices and employees’ practices are conducive to the effectiveness of vision characteristics. In contrast, when there is no match between vision characteristics and owners’ cultural orientations, it is more likely in China than in Germany that neither owners’ practices nor employees’ practices are conducive to the effectiveness of vision characteristics. Assuming that the effectiveness of vision characteristics depends on whether both owners’ practices and employees’ practices are conducive to it, we suggest that this may explain why our hypotheses received more support in China than in Germany.

Post hoc, the two moderator effects that were inconsistent with our hypotheses in Germany, namely, the negative moderator effect of owners’ performance orientation on the relationship between the vision characteristic ‘challenge’ and business success and the negative moderator effect of owners’ uncertainty avoidance on the relationship between the vision characteristic ‘stability’ and business success, may be explained as follows: When visions are very challenging and when owners support much striving for “performance improvement and excellence” (Javidan et al., 2004, p. 30), employees may feel that there is too much pressure put on them. When visions are very stable and when owners foster much reliance on “social

norms, rules, and procedures” to prevent incertitude (Javidan et al., 2004, p. 30), employees may feel that there is too much monotony imposed on them. In both cases, employees may show reactance and work against the visions.

3.5.1. Limitations

Not all of the owners’ visions complied with the definitions of visions given in entrepreneurship research. Some of the owners’ visions did not represent images of desirable futures that provide meaning and direction (Bennis & Nanus, 1985; House & Shamir, 1993; Kouzes & Posner, 1987) but outlined how to attain these images or served as standards for evaluating attainment. Thus, they were rather strategies or goals (Levin, 2000). Nevertheless, we used all of the owners’ visions. We follow Baum et al. (1998) in arguing that it is the owners’ visions, as they define them, that guide the owners’ choices and actions and, therefore, are related to their business success.

The six cultural orientations refer to only six of the nine cultural dimensions introduced by the GLOBE Study (House & Javidan, 2004). We would have liked to develop hypotheses regarding the moderator effects of owners’ gender egalitarianism, owners’ institutional collectivism, and owners’ in-group collectivism. However, we would not have been able to test the hypotheses because there are no scales suitable for owners that validly and reliably measure the three cultural orientations.

Due to the cross-sectional design of the study, we cannot draw any causal conclusions regarding the relationships between vision characteristics and business success. We assumed that vision characteristics have effects on business success, but, contrary to this assumption, business success may as well have effects on vision characteristics. Only a longitudinal study could provide us with insight into the causality of the relationships. It should be noted, however, that it is effects of vision characteristics on business success, rather than effects of business success on vision characteristics, that have been assumed and tested in entrepreneurship research (Baum et al., 1998; Locke et al., 1991).

3.5.2. Implications for Future Research

Vision characteristics and business success. Contrary to assumptions in entrepreneurship research (Baum et al., 1998; Locke et al., 1991), most of the vision characteristics (namely, ‘challenge’, ‘social responsibility’, ‘future orientation’, ‘clarity’, and ‘stability’) were not related to business success either in China or Germany. This fact emphasizes the

importance of identifying moderators of the relationships between vision characteristics and business success. We identified owners' cultural orientations as moderators. Other moderators may be identified in future research.

Owners' cultural orientations and business success. Most of owners' cultural orientations (namely, performance orientation, future orientation, assertiveness, and power distance) were related to business success in China and/or Germany. This fact suggests to focus not only on the relationships between vision characteristics and business success but also on the relationships between owners' cultural orientations and business success. These relationships may be studied in future research.

3.6. Conclusion

We contribute to entrepreneurship research by identifying owners' cultural orientations as moderators of the relationships between vision characteristics and business success. Further, we contribute to cross-cultural research by showing that there are Chinese-German differences in the moderator effects of owners' cultural orientations. Our results are useful for owners. As regards China, our results suggest that vision characteristics are more effective for owners who match them with their cultural orientations than for owners who do not. As regards Germany, our results suggest that a match between vision characteristics and owners' cultural orientations increases the effectiveness of vision characteristics in some cases but decreases it in others.

4. The Relationships Between Business Owners' Cultural Orientations and Business Success

Culture is manifested in practices and values of societies and organizations (Erez & Gati, 2004; House & Javidan, 2004), whereas cultural orientations are manifested in practices and values of individuals (Chirkov et al., 2003; Maznevski et al., 2002). The focus in entrepreneurship research has been on culture (Freitag & Thurik, 2007; George & Zahra, 2002). Scholars have studied the relationships between culture and entrepreneurial concepts at the societal and the organizational level of analysis (cf. the review by Hayton et al., 2002) rather than the relationships between cultural orientations and entrepreneurial concepts at the individual level of analysis. Focusing on cultural orientations, we conducted a longitudinal study of the relationships between business owners' cultural orientations and business success.¹ Longitudinal studies are rarely conducted in entrepreneurship research (Rauch & Frese, 2000).

4.1. Owners' Cultural Orientations and Business Success

Owners' cultural orientations are manifested in the practices and values owners use in their businesses (König et al., 2007). We considered practices to be more relevant to business success than values because practices are related to actions (Frese, 2006) and "there is no success without actions" (Rauch & Frese, 2000, p. 103). Owners' practices substantially influence the development of organizational cultures (Schein, 2004), which, in turn, shape employees' practices (Aycan et al., 1999). Organizational cultures develop as a result of the interactions between owners and employees (Schein, 2004). Due to the substantial influence of owners' practices on these interactions, organizational cultures shape employees' practices such that employees' practices conform to owners' practices (Schein, 2004). Thus, owners' cultural orientations, which are manifested in owners' practices, are reflected in employees' practices. Business success comprises financial dimensions, such as sales growth or growth in the number of employees, and operational dimensions, such as product and service quality or customer satisfaction (Combs et al., 2005; Venkatraman & Ramanujam, 1986).

¹ Business owners are defined as individuals who own and manage their businesses (Carland et al., 1984). For simplification, they are referred to as 'owners' in the following.

We longitudinally studied the relationships between each of six cultural orientations and business success. The six cultural orientations refer to cultural dimensions introduced by the Global Leadership and Organizational Behavior Effectiveness (GLOBE) Study (House & Javidan, 2004). We adapted the definitions given by Javidan et al. (2004, p. 30) to the practices owners use in their businesses: *Performance orientation* implies that owners support striving for “performance improvement and excellence.” *Humane orientation* means that owners promote fairness, altruism, generosity, care, and kindness. *Future orientation* signifies that owners foster “delaying gratification, planning, and investing in the future.” *Assertiveness* implies that owners support confrontation and aggressiveness. *Power distance* means that owners promote acceptance of power being distributed unequally. *Uncertainty avoidance* signifies that owners foster reliance on “social norms, rules, and procedures” to prevent incertitude.

The relationships between owners’ cultural orientations and business success may be characterized as follows: First, owners’ cultural orientations may have effects on business success. Second, business success may have effects on owners’ cultural orientations. Third, there may be reciprocal effects.

Effects of owners’ cultural orientations on business success. Effects of owners’ cultural orientations on business success imply that owners’ cultural orientations lead to increased or decreased business success. As mentioned above, owners’ cultural orientations are manifested in the practices owners use in their businesses (König et al., 2007). These practices may be conducive or detrimental to business success (Schein, 2004). For example, supporting performance orientation may be conducive to business success: The more organizational cultures emphasize striving for “performance improvement and excellence” (Javidan et al., 2004, p. 30), the more likely owners and employees are to work hard (Javidan, 2004). Working hard is crucial for business success (McClelland, 1961). In contrast, fostering uncertainty avoidance may be detrimental to business success: The more organizational cultures emphasize reliance on “social norms, rules, and procedures” to prevent incertitude (Javidan et al., 2004, p. 30), the less likely owners and employees are to tolerate risk and ambiguity (Sully De Luque & Javidan, 2004). However, tolerating risk and ambiguity is crucial for business success (McGrath, MacMillan, & Scheinberg, 1992).

Effects of business success on owners’ cultural orientations. Effects of business success on owners’ cultural orientations imply that business success leads to an increase or decrease in owners’ cultural orientations. As mentioned above, owners’ cultural orientations are

manifested in the practices owners use in their businesses (König et al., 2007). Business success may make it easier or harder for owners to use certain practices (Schein, 2004). For example, promoting humane orientation, that is, fairness, altruism, generosity, care, and kindness (Javidan et al., 2004), may be desirable but not necessarily conducive to business success (Kabasakal & Bodur, 2004). Successful owners may make more use of this practice than unsuccessful owners because successful owners have the resources to go for the desirability rather than the conduciveness of practices.

Reciprocal effects. Reciprocal effects imply that owners' cultural orientations have effects on business success and that business success has effects on owners' cultural orientations (Bandura, 1978). Following an upward spiral or a self-correcting cycle, reciprocal effects may involve self-regulation (Carver & Scheier, 1998; Lindsley, Brass, & Thomas, 1995).

An upward spiral signifies that owners' cultural orientations lead to increased business success, which, in turn, is followed by an increase in owners' cultural orientations (Lindsley et al., 1995). When owners become aware that the practices their cultural orientations are manifested in are conducive to business success, they may regulate their cultural orientations by making more use of these practices (Carver & Scheier, 1998). For example, fostering future orientation may be conducive to business success: The more organizational cultures emphasize "delaying gratification, planning, and investing in the future" (Javidan et al., 2004, p. 30), the more likely owners and employees are to plan ahead (Ashkanasy et al., 2004). Planning ahead is crucial for business success (Frese et al., in press). When owners become aware that fostering future orientation is conducive to business success, they may make more use of this practice because they want to be even more successful.

A self-correcting cycle signifies that owners' cultural orientations lead to decreased business success, which, in turn, is followed by a decrease in owners' cultural orientations (Lindsley et al., 1995). When owners become aware that the practices their cultural orientations are manifested in are detrimental to business success, they may regulate their cultural orientations by making less use of these practices (Carver & Scheier, 1998). For example, supporting assertiveness may be detrimental to business success: The more organizational cultures emphasize confrontation and aggressiveness (Javidan et al., 2004), the less likely owners and employees are to build cohesion (Den Hartog, 2004). However, building cohesion is beneficial for business success (Gully, Devine, & Whitney, 1995). Also, promoting power distance may be detrimental to business success: The more organizational cultures emphasize

acceptance of power being distributed unequally (Javidan et al., 2004), the less likely owners are to empower employees (Carl et al., 2004). However, empowering employees is beneficial for business success (Conger & Kanungo, 1988). When owners become aware that supporting assertiveness and promoting power distance are detrimental to business success, they may make less use of these practices because they do not want to be even less successful.

Synchronous or lagged effects. The effects of owners' cultural orientations on business success and the effects of business success on owners' cultural orientations may be synchronous or lagged. They may occur sometime within a given interval or they may take the given interval to occur (Finkel, 1995). For example, when there are reciprocal effects following an upward spiral or a self-correcting cycle, it may be that the effects of owners' cultural orientations on business success are synchronous, whereas the effects of business success on owners' cultural orientations are lagged because owners may need some time before they become aware that the practices their cultural orientations are manifested in are conducive or detrimental to business success and before they make more or less use of these practices (Carver & Scheier, 1998).

In the longitudinal study, we aimed at determining whether the six cultural orientations have effects on business success, whether business success has effects on the six cultural orientations, or whether there are reciprocal effects. Moreover, we aimed at determining whether the effects are synchronous or lagged.

4.2. Method

4.2.1. Participants and Procedure

The study consisted of two parts (T1 and T2) with a two-year interval between them. The sample comprised German owners. Their businesses belonged to four industries, namely, information technology, hotel and catering, automobile, and construction.

To participate in the study, the owners had to meet two criteria: First, they had to own (with shares of at least 10%) and manage their businesses. Second, they had to have at least one employee. There is a qualitative difference between owners who work alone and owners who have employees. The step from working alone to having employees implies a change in self-perception, responsibility, and managerial demands (Frese & de Kruif, 2000). We searched for participants in Middle and Southern Hesse, a province in Western Germany. We mostly used the yellow pages and lists provided by the chamber of commerce but sometimes

we also relied on personal contacts with and recommendations of owners. Of the 697 owners who met the criteria for participation, 290 (42%) participated at T1. Of the 290 owners who participated at T1, 191 (66%) participated again at T2. These 191 owners did not differ significantly in either their cultural orientations or their business success from the 99 owners who participated only at T1.

Both at T1 and T2, we interviewed the owners and asked them to complete a questionnaire that included measures of their cultural orientations and their business success. Of the 191 owners who participated both at T1 and T2, 120 (63%) completed the questionnaire twice. These 120 owners did not differ significantly in either their cultural orientations or their business success from the 71 owners who completed the questionnaire only once. The 120 owners who completed the questionnaire both at T1 and T2 formed the sample for our analyses. Their businesses belonged particularly to the construction industry (42%, $n = 50$), followed by the information technology industry (23%, $n = 28$), the hotel and catering industry (23%, $n = 28$), and the automobile industry (12%, $n = 14$). Most of the owners did not only own and manage their businesses but had also founded them (67%, $n = 80$). On average, the owners had 13 employees.

4.2.2. Measures

Cultural orientations. To measure the owners' cultural orientations at T1 and T2, we used scenario-based scales developed by König et al. (2007). Performance orientation, future orientation, assertiveness, and uncertainty avoidance were each assessed by three scenarios. Humane orientation and power distance were assessed by four and five scenarios, respectively. Each of the scenarios consisted of a concrete social situation (e.g., 'Imagine that you have to decide who among your employees will be promoted. What do you do?') and two behavioral options representing low and high scores on the cultural orientation to be assessed (e.g., 'You promote your employees based on their seniority.' and 'You promote your employees based on their performance.'). Between the two behavioral options, there were two mirror-inverted three-point scales ranging from 'somewhat true of me' (3/4) over 'very true of me' (2/5) to 'extremely true of me' (1/6).

The scales' coefficients alpha ranged from only .52 to .75 at T1 and from only .67 to .86 at T2. They are presented in Table 4-1. Coefficient alpha estimates internal consistency (Cronbach, 1951). Scenario-based scales tend to show lower internal consistencies than scales based on Likert items. Consisting of concrete social situations and behavioral options, scenar-

ios capture more situational and behavioral aspects than Likert items, which consist of general abstract statements and standardized scale responses. Therefore, scenarios have higher specific variances that result in lower intercorrelations (Chan & Schmitt, 1997; Motowidlo et al., 1990). Test-retest reliability is assumed to be a more appropriate reliability estimate for scenario-based scales than coefficient alpha because test-retest reliability does not estimate internal consistency (Chan & Schmitt, 1997; Motowidlo et al., 1990). The scales' test-retest reliabilities ranged from .73 to .78. They are also presented in Table 4-1. Instead of assessing the scales' test-retest reliabilities over the two-year interval between T1 and T2, we assessed them over a six-month interval.² Thereby, we took into account that owners' cultural orientations may change over time. As mentioned above, owners may regulate their cultural orientations by making more or less use of the practices their cultural orientations are manifested in (Carver & Scheier, 1998). The shorter the interval over which the scales' test-retest reliabilities were assessed, the more likely the test-retest correlations of owners' cultural orientations reflected measurement errors in the scales rather than changes in owners' cultural orientations over time (DeVellis, 2006).

Table 4-1

Reliabilities of the Scales Measuring Owners' Cultural Orientations

Cultural orientation	Coefficient alpha		Test-retest reliability (six-month interval)
	T1	T2	
Performance orientation	.56	.68	.75
Humane orientation	.66	.73	.73
Future orientation	.62	.75	.74
Assertiveness	.74	.86	.76
Power distance	.75	.75	.78
Uncertainty avoidance	.52	.67	.74

² Six months after they had completed the scales for the first time, we asked 25 owners to complete them a second time. The 22 owners (88%) who agreed to do so formed the sub-sample for the assessment of the scales' test-retest reliabilities. The sub-sample was representative of the sample.

Business success. To measure the owners' business success at T1 and T2, we used an index that was formed of 13 items. Ten of the 13 items were adapted from Wiklund and Shepherd (2003). They assessed the owners' subjective business success in comparison to their competitors. The ten items were rather specific because they referred to financial and operational dimensions of business success. The financial dimensions were sales growth, revenue growth, growth in the number of employees, and net profit margin. The operational dimensions were product/service innovation, process innovation, adoption of new technology, product/service quality, product/service variety, and customer satisfaction. A sample item was: 'During the last three years, how did your business develop regarding sales growth in comparison to your two most important competitors?' The ten items were answered on five-point scales ranging from 'much worse' (1) to 'much better' (5). Three of the 13 items were adapted from Van Dyck et al. (2005). They also assessed the owners' subjective business success in comparison to their competitors. The three items were rather general because they did not refer to financial and operational dimensions of business success. A sample item was: 'How successful is your business in comparison to other businesses in the same industry and of about the same size?' Two items were answered on five-point scales ranging from 'not at all' (1) to 'completely' (5), whereas one item was answered on a six-point scale ranging from 'I belong to the less successful half of the business owners' (1) to 'I am the most successful business owner' (6). Due to their different scalings, the 13 items were z-standardized before the index was formed.

Business success can be assessed using objective or subjective measures (Combs et al., 2005; Venkatraman & Ramanujam, 1986). Judged against objective measures, subjective measures hold convergent, discriminant, and construct validity (Wall et al., 2004). To provide some evidence for the convergent validity of the subjective measures we used to assess the dimensions of business success, we assessed three dimensions using objective measures as well. We asked the owners to indicate their sales, their revenue, and the number of their employees in the last three years (2001, 2002, and 2003 at T1, and 2004, 2005, and 2006 at T2). Then, we calculated the average growth in each of the three dimensions. Both at T1 and T2, the correlations between the subjective and the objective measures were positive, namely, $r = .10$ ($p > .05$) and $r = .25$ ($p > .01$) for sales growth, $r = .24$ ($p < .05$) and $r = .13$ ($p > .05$) for revenue growth, as well as $r = .11$ ($p > .05$) and $r = .41$ ($p < .01$) for growth in the number of employees.

4.2.3. Method of Analysis

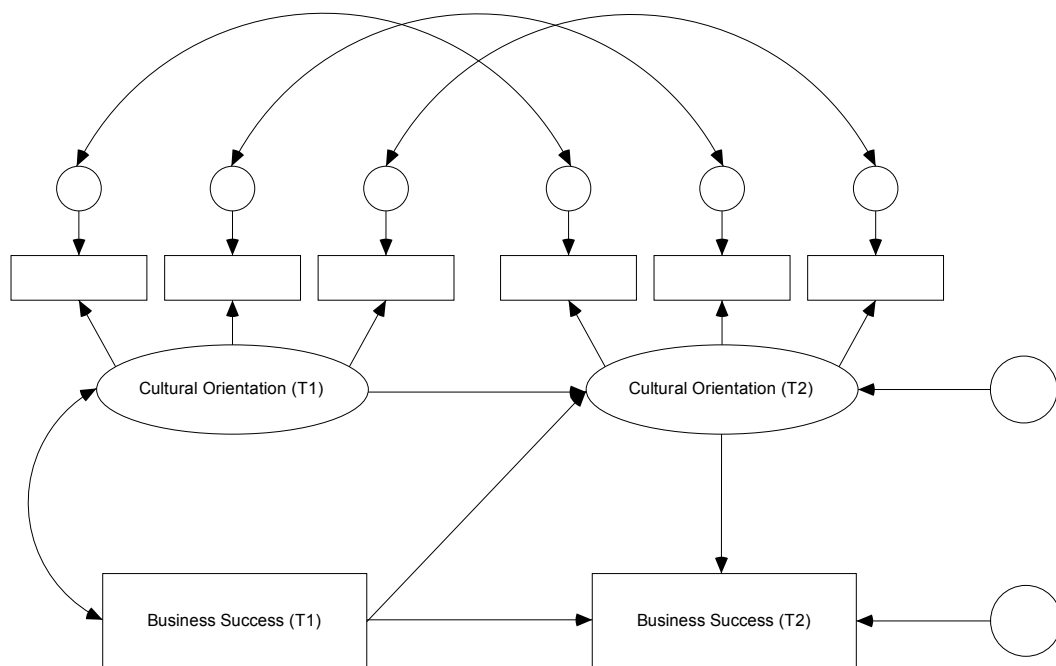
Our analyses were based on structural equation modeling. Due to the small sample size, we analyzed the relationships between each of the six cultural orientations and business success in separate models.

Measurement models. The specification and estimation of measurement models enabled us to test four forms of invariance over time, namely, configural, factor covariance, factor variance, and metric invariance. Given the four forms of invariance over time, the cultural orientation and business success could be meaningfully compared at T1 and T2 (Schaubroeck & Green, 1989; Vandenberg & Self, 1993). We specified a model of configural invariance. In the model, we measured the cultural orientation using the same scenarios and business success using an index formed of the same items at T1 and T2. We assigned a scale to the cultural orientation by setting the factor loading of one scenario to one. The errors of the scenarios measuring the cultural orientation at T1 and T2 covaried with each other. Starting from the model of configural invariance, we specified nested models of factor covariance, factor variance, and metric invariance. In the nested models, we successively constrained the covariance between the cultural orientation and business success, the variances of the cultural orientation and business success, as well as the factor loadings of the scenarios to be equal at T1 and T2. We estimated the models by performing confirmatory factor analyses. We used AMOS 6 (Arbuckle, 2005) and the full information maximum likelihood estimation method based on raw data (Arbuckle, 1996). To evaluate model fit, we relied on the chi-square test (Jöreskog, 1971) along with the root mean square error of approximation (RMSEA, Browne & Cudeck, 1993) and the comparative fit index (CFI, Bentler, 1990). We interpreted RMSEA values close to .060 and CFI values close to .95 as indicators of good model fit (Hu & Bentler, 1999). However, we attached less importance to the RMSEA than to the CFI because the RMSEA tends to be too strict when sample sizes are small (Hu & Bentler, 1999). To compare two nested models, we relied on the chi-square difference test (Bollen, 1989). A non-significant increase in chi-square between the less and the more constrained model indicated invariance.

Structural models. The specification and estimation of structural models enabled us to test synchronous and lagged effects of the cultural orientation on business success and of business success on the cultural orientation (Bollen, 1989; Finkel, 1995). We specified a baseline model. It comprised a covariance between the cultural orientation and business success at T1 and the stabilities of the cultural orientation and business success from T1 to T2.

Starting from the baseline model, we specified four competing models regarding the relationship between the cultural orientation and business success. The four competing models each included two effects, namely, a synchronous effect of the cultural orientation on business success and a lagged effect of business success on the cultural orientation (Model 1), a lagged effect of the cultural orientation on business success and a synchronous effect of business success on the cultural orientation (Model 2), a synchronous effect of the cultural orientation on business success and a synchronous effect of business success on the cultural orientation (Model 3), as well as a lagged effect of the cultural orientation on business success and a lagged effect of business success on the cultural orientation (Model 4).³ The four competing models are shown in Figures 4-1 through 4-4.

Figure 4-1

Model 1

³ In the models comprising synchronous effects, we regressed the dependent variables at T2 on the independent variables at T2, while controlling for the dependent variables at T1. In the models comprising lagged effects, we regressed the dependent variables at T2 on the independent variables at T1, while controlling for the dependent variables at T1.

Figure 4-2

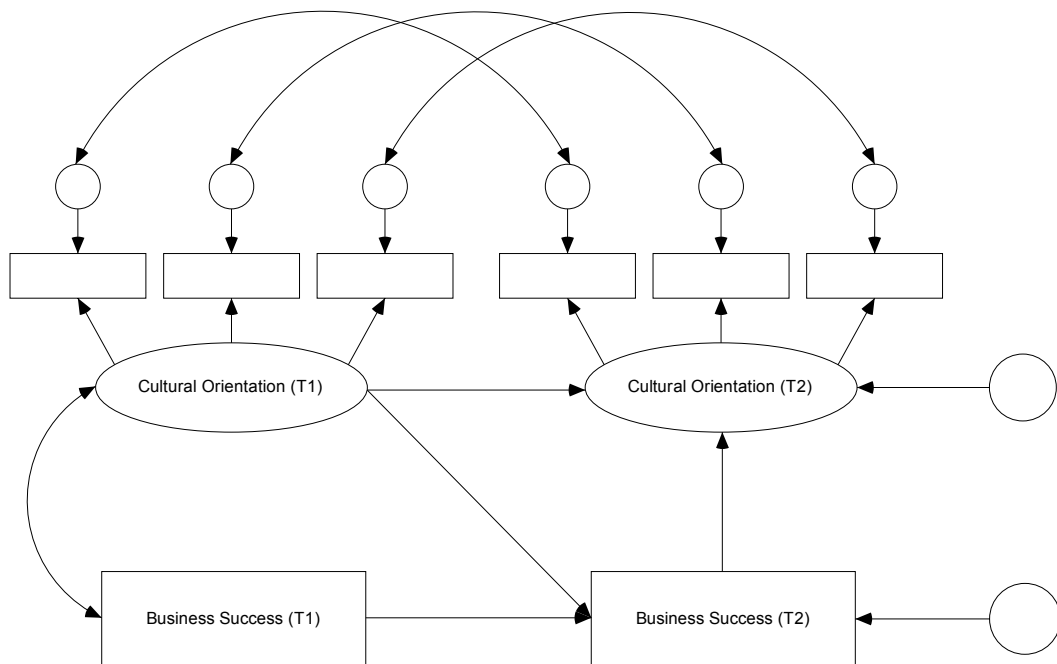
Model 2

Figure 4-3

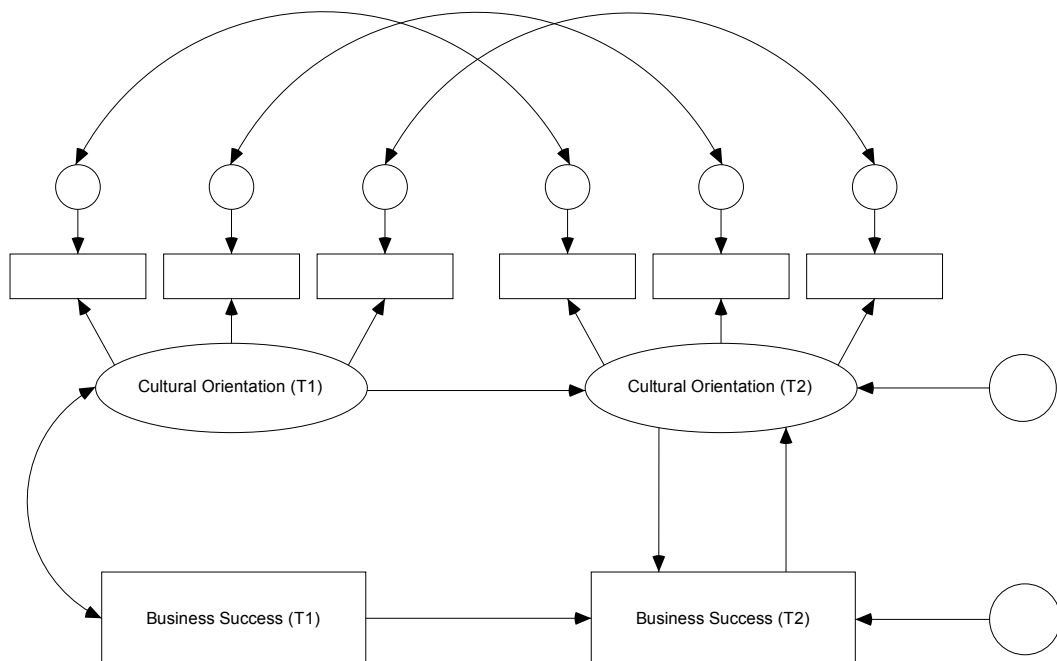
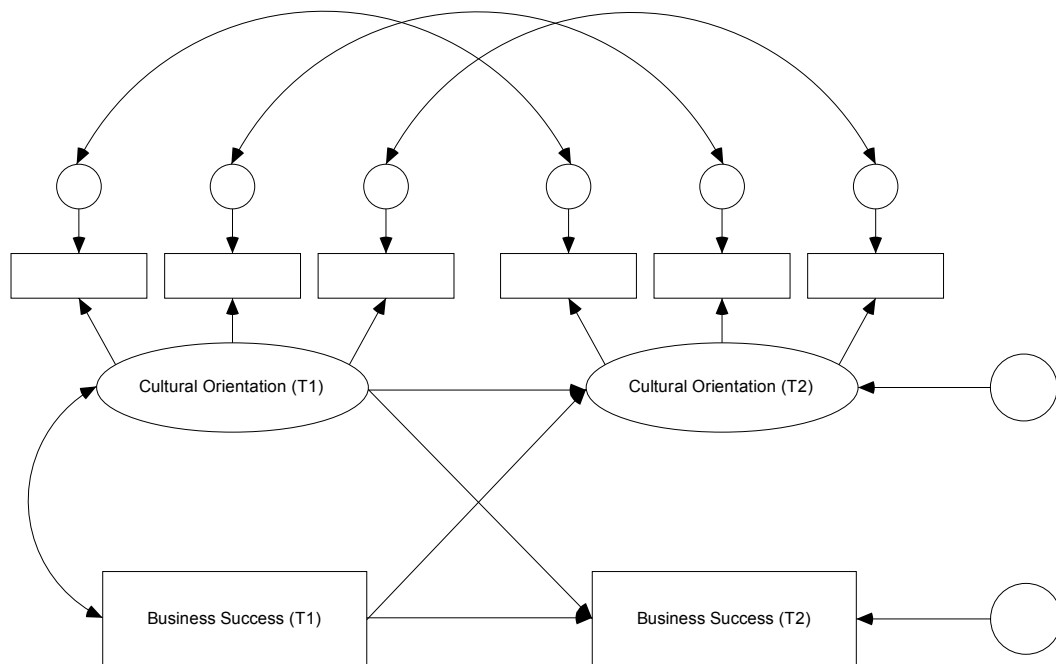
Model 3

Figure 4-4

Model 4

Again, we estimated the models by performing confirmatory factor analyses. To compare the models, we relied on the Akaike information criterion (AIC, Akaike, 1987). Lower AIC values indicated better model fit. Based on the significance of the two effects included in the model that provided the best fit, we determined whether the cultural orientation had an effect on business success, whether business success had an effect on the cultural orientation, or whether there were reciprocal effects. For example, if the two effects were both significant, the relationship between the cultural orientation and business success was characterized by reciprocal effects.

4.3. Results

4.3.1. Intercorrelations

The intercorrelations of owners' cultural orientations and business success, measured at T1 and T2, are presented in Table 4-2 on page 87. Over the two-year interval, the test-retest correlations of owners' cultural orientations were considerably lower than over the six-month interval (cf. Table 1). They ranged from $r = .21$ ($p < .05$) to $r = .56$ ($p < .01$). The test-retest correlation of business success was $r = .53$ ($p < .01$).

4.3.2. Measurement Models

The results of the confirmatory factor analyses performed to test configural, factor covariance, factor variance, and metric invariance over time are shown in Table 4-3 on pages 88 and 89. The models of configural, factor covariance, factor variance, and metric invariance had good fits. The increases in chi-square between the less and the more constrained models were not significant. Given the four forms of invariance over time, owners' cultural orientations and business success could be meaningfully compared at T1 and T2.

4.3.3. Structural Models

The results of the confirmatory factor analyses performed to test synchronous and lagged effects of owners' cultural orientations on business success and of business success on owners' cultural orientations are presented in Table 4-4 on pages 90 and 91.

Performance orientation and business success. A comparison of the four competing models concerning the relationship between owners' performance orientation and business success revealed that Model 1, which comprised a synchronous effect of owners' performance orientation on business success and a lagged effect of business success on owners' performance orientation, provided the best fit ($\chi^2(16) = 24.36$; RMSEA = .066; CFI = .96; AIC = 80.36). The synchronous effect of owners' performance orientation on business success was significant ($\beta = .20, p < .05$). The more owners supported performance orientation in their businesses, the more successful they were. However, the lagged effect of business success on owners' performance orientation was not significant ($\beta = -.05, n.s.$).

Humane orientation and business success. A comparison of the four competing models regarding the relationship between owners' humane orientation and business success showed that Model 3, which included a synchronous effect of owners' humane orientation on business success and a synchronous effect of business success on owners' humane orientation, had the best fit ($\chi^2(31) = 32.83$; RMSEA = .022; CFI = .99; AIC = 100.83). The synchronous effect of owners' humane orientation on business success did not reach significance ($\beta = -.07, n.s.$). However, the synchronous effect of business success on owners' humane orientation was significant ($\beta = .21, p < .05$). The more successful owners were, the more they promoted humane orientation in their businesses.

Future orientation and business success. A comparison of the four competing models concerning the relationship between owners' future orientation and business success revealed

that Model 4, which comprised a lagged effect of owners' future orientation on business success and a lagged effect of business success on owners' future orientation, provided the best fit ($\chi^2(16) = 22.92$; RMSEA = .060; CFI = .97; AIC = 78.92). However, the two effects did not reach significance ($\beta = .06$, n.s., and $\beta = -.07$, n.s., respectively).

Assertiveness and business success. A comparison of the four competing models regarding the relationship between owners' assertiveness and business success showed that Model 3, which included a synchronous effect of owners' assertiveness on business success and a synchronous effect of business success on owners' assertiveness, had the best fit ($\chi^2(16) = 17.97$; RMSEA = .032; CFI = .99; AIC = 73.97). However, the two effects were not significant ($\beta = -.16$, n.s., and $\beta = .09$, n.s., respectively).

Power distance and business success. A comparison of the four competing models concerning the relationship between owners' power distance and business success revealed that Model 1, which comprised a synchronous effect of owners' power distance on business success and a lagged effect of business success on owners' power distance, provided the best fit ($\chi^2(46) = 62.31$; RMSEA = .055; CFI = .95; AIC = 150.31). However, the two effects did not reach significance ($\beta = -.07$, n.s., and $\beta = .08$, n.s., respectively).

Uncertainty avoidance and business success. A comparison of the four competing models regarding the relationship between owners' uncertainty avoidance and business success showed that Model 1, which included a synchronous effect of owners' uncertainty avoidance on business success and a lagged effect of business success on owners' uncertainty avoidance, had the best fit ($\chi^2(16) = 13.55$; RMSEA = .000; CFI = 1.00; AIC = 67.55). The synchronous effect of owners' uncertainty avoidance on business success was significant ($\beta = -.20$, $p < .05$). The less owners fostered uncertainty avoidance in their businesses, the more successful they were. However, the lagged effect of business success on owners' uncertainty avoidance was not significant ($\beta = .12$, n.s.).

Stabilities. Apart from synchronous and lagged effects, the models comprised the stabilities of owners' cultural orientations and business success from T1 to T2. Compared to the stability of business success, which ranged from $\beta = .51$ ($p < .01$) to $\beta = .55$ ($p < .01$) in the models, owners' performance orientation ($\beta = .51$, $p < .01$), owners' assertiveness ($\beta = .49$, $p < .01$), and owners uncertainty avoidance ($\beta = .18$, n.s.) were less stable, whereas owners' humane orientation ($\beta = .73$, $p < .01$), owners' future orientation ($\beta = .66$, $p < .01$), and owners' power distance ($\beta = .61$, $p < .01$) were more stable.

Table 4-2

Intercorrelations of Owners' Cultural Orientations and Business Success, Measured at T1 and T2

		01	02	03	04	05	06	07	08	09	10	11	12	13
01	Performance orientation T1													
02	Humane orientation T1	-.06												
03	Future orientation T1	.27**	.22*											
04	Assertiveness T1	-.25**	-.34**	-.09										
05	Power distance T1	.16	-.38**	-.21*	-.05									
06	Uncertainty avoidance T1	-.06	-.30**	-.36*	.12	.32**								
07	Business success T1	.24**	.11	.16	-.22*	.01	-.12							
08	Performance orientation T2	.39**	.05	.15	-.07	.01	-.02	.11						
09	Humane orientation T2	-.13	.56**	.00	-.23*	-.33**	-.25**	.19*	-.03					
10	Future orientation T2	.23*	.22*	.48**	-.08	-.39**	-.48**	.06	.22*	.21*				
11	Assertiveness T2	-.23*	-.33**	-.15	.39**	.20*	.35**	-.06	-.19*	-.30**	-.32**			
12	Power distance T2	-.18*	-.29**	-.13	.09	.49**	.28**	.04	.06	-.37**	-.35**	.28**		
13	Uncertainty avoidance T2	-.02	-.16	-.10	-.02	.12	.21*	.06	-.12	-.18	-.20*	.13	.31**	
14	Business success T2	.17	.08	.13	-.15	-.01	-.11	.53**	.27**	.21*	.08	-.09	-.03	-.10

Note. * = $p < .05$, ** = $p < .01$.

Table 4-3

Confirmatory Factor Analyses Testing Configural, Factor Covariance, Factor Variance, and Metric Invariance Over Time

Models	χ^2 (df)	$\Delta\chi^2$ (Δ df)	RMSEA	CFI
Performance orientation and business success				
Configural invariance	23.01 (13) ^{n.s.}	-	.080	.95
Factor covariance invariance	23.03 (14) ^{n.s.}	0.02 (1) ^{n.s.}	.074	.95
Factor variance invariance	25.02 (16) ^{n.s.}	1.99 (2) ^{n.s.}	.069	.95
Metric invariance	25.31 (18) ^{n.s.}	0.29 (2) ^{n.s.}	.058	.96
Humane orientation and business success				
Configural invariance	31.87 (27) ^{n.s.}	-	.039	.98
Factor covariance invariance	32.29 (28) ^{n.s.}	0.42 (1) ^{n.s.}	.036	.98
Factor variance invariance	33.42 (30) ^{n.s.}	1.13 (2) ^{n.s.}	.031	.99
Metric invariance	34.18 (33) ^{n.s.}	0.76 (3) ^{n.s.}	.017	1.00
Future orientation and business success				
Configural invariance	22.37 (13) ^{n.s.}	-	.078	.96
Factor covariance invariance	22.99 (14) ^{n.s.}	0.62 (1) ^{n.s.}	.073	.96
Factor variance invariance	24.13 (16) ^{n.s.}	1.14 (2) ^{n.s.}	.065	.96
Metric invariance	24.98 (18) ^{n.s.}	0.85 (2) ^{n.s.}	.057	.97

Note. * = $p < .05$, ** = $p < .01$, n.s. = not significant. RMSEA = root mean square error of approximation, CFI = comparative fit index.

Table 4-3 (continued)

Confirmatory Factor Analyses Testing Configural, Factor Covariance, Factor Variance, and Metric Invariance Over Time

Models	χ^2 (df)	$\Delta\chi^2$ (Δ df)	RMSEA	CFI
Assertiveness and business success				
Configural invariance	16.38 (13) ^{n.s.}	-	.047	.99
Factor covariance invariance	16.93 (14) ^{n.s.}	0.55 (1) ^{n.s.}	.042	.99
Factor variance invariance	18.41 (16) ^{n.s.}	1.48 (2) ^{n.s.}	.036	.99
Metric invariance	20.06 (18) ^{n.s.}	1.65 (2) ^{n.s.}	.031	.99
Power distance and business success				
Configural invariance	67.10 (50) ^{n.s.}	-	.054	.94
Factor covariance invariance	67.14 (51) ^{n.s.}	0.04 (1) ^{n.s.}	.052	.95
Factor variance invariance	71.02 (53) ^{n.s.}	3.88 (2) ^{n.s.}	.053	.94
Metric invariance	72.66 (57) ^{n.s.}	1.64 (4) ^{n.s.}	.053	.94
Uncertainty avoidance and business success				
Configural invariance	13.13 (13) ^{n.s.}	-	.009	1.00
Factor covariance invariance	13.21 (14) ^{n.s.}	0.08 (1) ^{n.s.}	.000	1.00
Factor variance invariance	14.77 (16) ^{n.s.}	1.56 (2) ^{n.s.}	.000	1.00
Metric invariance	15.17 (18) ^{n.s.}	0.40 (2) ^{n.s.}	.000	1.00

Note. * = $p < .05$, ** = $p < .01$, n.s. = not significant. RMSEA = root mean square error of approximation, CFI = comparative fit index.

Table 4-4

Confirmatory Factor Analyses Testing Synchronous and Lagged Effects of Owners' Cultural Orientations on Business Success and of Business Success on Owners' Cultural Orientations

Models	χ^2 (df)	RMSEA	CFI	AIC
Performance orientation (PO) and business success (BS)				
1. PO (T2) → BS (T2) and BS (T1) → PO (T2)	24.36 (16) ^{n.s.}	.066	.96	80.36
2. PO (T1) → BS (T2) and BS (T2) → PO (T2)	26.24 (16) ^{n.s.}	.073	.95	82.24
3. PO (T2) → BS (T2) and BS (T2) → PO (T2)	24.53 (16) ^{n.s.}	.067	.95	80.53
4. PO (T1) → BS (T2) and BS (T1) → PO (T2)	28.28 (16) [*]	.080	.93	84.28
Humane orientation (HO) and business success (BS)				
1. HO (T2) → BS (T2) and BS (T1) → HO (T2)	34.65 (31) ^{n.s.}	.031	.99	102.65
2. HO (T1) → BS (T2) and BS (T2) → HO (T2)	32.91 (31) ^{n.s.}	.034	.99	100.91
3. HO (T2) → BS (T2) and BS (T2) → HO (T2)	32.83 (31) ^{n.s.}	.022	.99	100.83
4. HO (T1) → BS (T2) and BS (T1) → HO (T2)	35.20 (31) ^{n.s.}	.034	.98	103.20
Future orientation (FO) and business success (BS)				
1. FO (T2) → BS (T2) and BS (T1) → FO (T2)	23.06 (16) ^{n.s.}	.061	.97	79.06
2. FO (T1) → BS (T2) and BS (T2) → FO (T2)	23.34 (16) ^{n.s.}	.062	.97	79.34
3. FO (T2) → BS (T2) and BS (T2) → FO (T2)	23.00 (16) ^{n.s.}	.061	.97	79.00
4. FO (T1) → BS (T2) and BS (T1) → FO (T2)	22.92 (16) ^{n.s.}	.060	.97	78.92

Note. * = $p < .05$, ** = $p < .01$, n.s. = not significant. RMSEA = root mean square error of approximation, CFI = comparative fit index, AIC = Akaike information criterion.

Table 4-4 (continued)

Confirmatory Factor Analyses Testing Synchronous and Lagged Effects of Owners' Cultural Orientations on Business Success and of Business Success on Owners' Cultural Orientations

Models	χ^2 (df)	RMSEA	CFI	AIC
Assertiveness (A) and business success (BS)				
1. A (T2) → BS (T2) and BS (T1) → A (T2)	18.14 (16) ^{n.s.}	.033	.99	74.14
2. A (T1) → BS (T2) and BS (T2) → A (T2)	18.62 (16) ^{n.s.}	.037	.99	74.62
3. A (T2) → BS (T2) and BS (T2) → A (T2)	17.97 (16) ^{n.s.}	.032	.99	73.97
4. A (T1) → BS (T2) and BS (T1) → A (T2)	18.52 (16) ^{n.s.}	.036	.99	74.52
Power distance (PD) and business success (BS)				
1. PD (T2) → BS (T2) and BS (T1) → PD (T2)	62.31 (46) ^{n.s.}	.055	.95	150.31
2. PD (T1) → BS (T2) and BS (T2) → PD (T2)	63.57 (46) [*]	.057	.94	151.57
3. PD (T2) → BS (T2) and BS (T2) → PD (T2)	63.08 (46) [*]	.056	.94	151.08
4. PD (T1) → BS (T2) and BS (T1) → PD (T2)	63.01 (46) [*]	.056	.94	151.01
Uncertainty avoidance (UA) and business success (BS)				
1. UA (T2) → BS (T2) and BS (T1) → UA (T2)	13.55 (16) ^{n.s.}	.000	1.00	69.55
2. UA (T1) → BS (T2) and BS (T2) → UA (T2)	17.43 (16) ^{n.s.}	.027	.99	73.43
3. UA (T2) → BS (T2) and BS (T2) → UA (T2)	13.60 (16) ^{n.s.}	.000	1.00	69.60
4. UA (T1) → BS (T2) and BS (T1) → UA (T2)	17.41 (16) ^{n.s.}	.027	.99	73.41

Note. * = $p < .05$, ** = $p < .01$, n.s. = not significant. RMSEA = root mean square error of approximation, CFI = comparative fit index, AIC = Akaike information criterion.

4.4. Discussion

The relationships between owners' cultural orientations and business success may be characterized as follows: First, owners' cultural orientations may have effects on business success. Second, business success may have effects on owners' cultural orientations. Third, there may be reciprocal effects. Moreover, the effects may be synchronous or lagged. We conducted a longitudinal study of the relationships between each of six cultural orientations (namely, performance orientation, humane orientation, future orientation, assertiveness, power distance, and uncertainty avoidance) and business success. Our aim was to determine the effects by which the relationships are characterized.

Owners' performance orientation and owners' uncertainty avoidance had effects on business success. The more owners supported performance orientation, and the less they fostered uncertainty avoidance in their businesses, the more successful they were. The effects suggest that hard work and tolerance of risk and ambiguity are crucial for business success (cf. McClelland, 1961; McGrath et al., 1992). In contrast, business success had no effects on owners' performance orientation and owners' uncertainty avoidance. Thus, there was no evidence for reciprocal effects involving self-regulation. Neither was the relationship between owners' performance orientation and business success characterized by reciprocal effects following an upward spiral, nor was the relationship between owners' uncertainty avoidance and business success characterized by reciprocal effects following a self-correcting cycle. An upward spiral and a self-correcting cycle imply that owners become aware that the practices their cultural orientations are manifested in are conducive or detrimental to business success. Only with such awareness may owners regulate their cultural orientations by making more or less use of these practices (Carver & Scheier, 1998). Maybe owners did not become aware that supporting performance orientation was conducive, whereas fostering uncertainty avoidance was detrimental to business success because they were not provided with "accurate, specific, and timely feedback" regarding the effectiveness of these practices (Lindsley et al., 1995, p. 653), or because the feedback cues had not accumulated to the point where owners could clearly interpret them (Carver & Scheier, 1998). This may explain why there was neither an increase in owners' performance orientation nor a decrease in owners' uncertainty avoidance.

Owners' humane orientation had no effect on business success. In contrast, business success had an effect on owners' humane orientation. The more successful owners were, the more they promoted humane orientation in their businesses. The effect suggests that owners consider promoting humane orientation to be desirable but, as this practice is not conducive to business success, need the resources to use it.

The effects that we detected in the relationships between owners' performance orientation, owners' humane orientation, and owners' uncertainty avoidance on the one hand and business success on the other hand were synchronous. They occurred sometime within the interval between T1 and T2. We did not detect effects in the relationships between owners' future orientation, owners' assertiveness, and owners' power distance on the one hand and business success on the other hand. Maybe these effects would have taken more than the interval between T1 and T2 to occur. For example, the conduciveness of fostering future orientation may not show within two years when owners and employees plan far ahead into the future because, then, their plans may need more than two years to be effective. When the conduciveness of fostering future orientation does not show within two years, owners may need more than two years before they become aware that this practice is conducive to business success and before they make more use of it. This may explain why the effect of owners' future orientation on business success and the effect of business success on owners' future orientation did not occur sometime within the interval between T1 and T2.

The stabilities of owners' cultural orientations from T1 to T2 were low to moderate and, thus, indicated that owners' cultural orientations changed over time. Owners' performance orientation and owners' uncertainty avoidance, which had effects on business success, and owners' assertiveness, whose effect on business success was almost significant, changed more over time than owners' humane orientation, owners' future orientation, and owners' power distance, which had no effects on business success. Maybe the changes in owners' performance orientation and owners' uncertainty avoidance and the change in owners' assertiveness reflected self-regulation, which, however, was not strong enough to result in reciprocal effects following an upward spiral or a self-correcting cycle.

Given the low to moderate stabilities of owners' cultural orientations, we did well to assess the scales' test-retest reliabilities over a six-month interval instead of assessing them over the two-year interval between T1 and T2. The shorter the interval, the more likely the

test-retest correlations of owners' cultural orientations reflected measurement errors in the scales rather than changes in owners' cultural orientations over time (DeVellis, 2006).

4.4.1. Limitations and Implications for Future Research

The six cultural orientations refer to only six of the nine cultural dimensions introduced by the GLOBE Study (House & Javidan, 2004). We could not longitudinally study the relationships between owners' gender egalitarianism, institutional collectivism, and in-group collectivism on the one hand and business success on the other hand because we were not able to measure the three cultural orientations both at T1 and T2 (Zapf, Dormann, & Frese, 1996). At T1, there were no scales suitable for owners that validly and reliably measured the three cultural orientations. At T2, however, we developed scales measuring them. Once we have validated the scales, they can be used to conduct future longitudinal studies of the relationships between each of the three cultural orientations and business success.

The sample comprised both founders and non-founders. We compared the intercorrelation matrix obtained in a sample that included only founders to the intercorrelation matrix obtained in a sample that included only non-founders. The correlation between the compared intercorrelation matrices was $r = .92$ ($p < .01$). Thus, we can rule out that our results were distorted by the fact that the sample comprised both owners who had and owners who had not founded their businesses.

A longer interval between T1 and T2 might have led to the detection of more effects (Zapf et al., 1996). Maybe the effects of owners' humane orientation, future orientation, assertiveness, and power distance on business success and the effects of business success on owners' performance orientation, future orientation, assertiveness, power distance, and uncertainty avoidance would have taken more than two years to occur. Therefore, longer intervals may be used when conducting future longitudinal studies of the relationships between each of the six cultural orientations and business success.

4.5. Conclusion

We contribute to entrepreneurship research by shifting the focus from studying the relationships between culture and entrepreneurial concepts at the societal and the organizational level of analysis to studying the relationships between cultural orientations and entrepreneurial concepts at the individual level of analysis. We detected effects in the relationships between owners' performance orientation, owners' humane orientation, and owners' uncertainty

avoidance on the one hand and business success on the other hand. Our results are useful for owners. They indicate that owners may increase their business success by supporting performance orientation but decrease it by fostering uncertainty avoidance. Indicating that successful owners promote more humane orientation than unsuccessful owners, our results may motivate owners to strive for business success.

5. Overall Discussion

This dissertation comprises three studies of business owners' cultural orientations.¹ Culture is manifested in practices and values of societies and organizations (Erez & Gati, 2004; House & Javidan, 2004). Cultural orientations are manifested in practices and values of individuals (Chirkov et al., 2003; Maznevski et al., 2002). The focus in entrepreneurship research has been on culture (Freytag & Thurik, 2007; George & Zahra, 2002). The focus of the three studies is on cultural orientations. The first study focuses on the conceptualization and measurement of owners' cultural orientations, whereas the second and the third study focus on the implications of owners' cultural orientations for business success. The three studies were conducted to provide evidence on whether owners' cultural orientations are useful concepts for entrepreneurship research. Based on the evidence presented by the three studies, the usefulness of owners' performance orientation, humane orientation, future orientation, assertiveness, power distance, and uncertainty avoidance will now be discussed. The six cultural orientations were analyzed in each of the three studies.

Cross-cultural validity. Owners' cultural orientations are useful concepts for entrepreneurship research if the scales measuring them hold cross-cultural validity and, thus, allow for meaningful comparisons of owners' cultural orientations across cultures. The first study provides evidence that the scales measuring performance orientation, humane orientation, future orientation, assertiveness, power distance, and uncertainty avoidance hold validity across China and Germany. The scales enable scholars to meaningfully compare the cultural orientations of Chinese and German owners. Future studies may confirm the usefulness of owners' cultural orientations by showing that the scales measuring these concepts also hold validity across cultures other than China and Germany.

Construct validity. Owners' cultural orientations are useful concepts for entrepreneurship research if the scales measuring them hold construct validity and, thus, allow for accurate descriptions and predictions of behaviors. The first study presents evidence that the scales measuring performance orientation, humane orientation, future orientation, assertiveness, power distance, and uncertainty avoidance hold construct validity in China and Germany. The scales enable scholars to assess the practices Chinese and German owners use in their businesses. Thereby, scholars can assess how Chinese and German owners go about managing

¹ For simplification, 'business owners' are referred to as 'owners' in the following.

their businesses and how they support the development of organizational cultures. Again, future studies may confirm the usefulness of owners' cultural orientations by demonstrating that the scales measuring these concepts also hold construct validity in cultures other than China and Germany.

Relationships to business success. Owners' cultural orientations are useful concepts for entrepreneurship research if they are related to important entrepreneurial concepts and, thus, contribute to their prediction. The second and the third study provide evidence that owners' cultural orientations are related to business success. According to the second study, owners' performance orientation, humane orientation, future orientation, power distance, and uncertainty avoidance have moderator effects on the relationships between vision characteristics and business success in China, whereas owners' performance orientation, power distance, and uncertainty avoidance have moderator effects on the relationships between vision characteristics and business success in Germany. The more Chinese owners support performance orientation, humane orientation, future orientation, and uncertainty avoidance, and the less they promote power distance in their businesses, the stronger the relationships are between the vision characteristics 'challenge', 'social responsibility', 'future orientation', 'stability', and 'clarity' on the one hand and business success on the other hand. The less German owners foster performance orientation, power distance, and uncertainty avoidance in their businesses, the stronger the relationships are between the vision characteristics 'challenge', 'clarity', and 'stability' on the one hand and business success on the other hand. According to the third study, owners' performance orientation and uncertainty avoidance have direct effects on business success in Germany. The more German owners support performance orientation, and the less they foster uncertainty avoidance in their businesses, the more successful they are. Moreover, business success has a direct effect on owners' humane orientation in Germany. The more successful German owners are, the more they promote humane orientation in their businesses. Just as culture is related to several entrepreneurial concepts at the societal and the organizational level of analysis (cf. the review by Hayton et al., 2002), owners' cultural orientations may be related to several entrepreneurial concepts at the individual level of analysis. Future studies may confirm the usefulness of owners' cultural orientations for entrepreneurship research by showing that these concepts are not only related to business success but also to other important entrepreneurial concepts.

The concepts of owners' cultural orientations are useful for entrepreneurship research. The three studies provide evidence for the usefulness of owners' performance orientation, humane orientation, future orientation, assertiveness, power distance, and uncertainty avoidance. According to the first study, the scales measuring the six cultural orientations hold cross-cultural validity and construct validity. According to the second and the third study, most of the six cultural orientations are related to business success, an important entrepreneurial concept. Future studies may demonstrate the usefulness of owners' gender egalitarianism, institutional collectivism, and in-group collectivism.

Moreover, the concepts of owners' cultural orientations may be of use to owners themselves. First, the scales measuring performance orientation, humane orientation, future orientation, assertiveness, power distance, and uncertainty avoidance can be used in training to make owners aware of the practices they use in their businesses. The awareness of how they go about managing their businesses and how they support the development of organizational cultures may lead owners to challenge and improve their practices. Second, the moderator effects of owners' cultural orientations on the relationships between vision characteristics and business success can be conveyed to owners in training. In China, owners may realize that vision characteristics are more effective for owners who match them with their cultural orientations than for owners who do not. In Germany, owners may realize that a match between vision characteristics and owners' cultural orientations increases the effectiveness of vision characteristics in some cases but decreases it in others. Third, the direct effects of owners' performance orientation and uncertainty avoidance on business success and the direct effect of business success on owners' humane orientation can also be conveyed to owners in training. When owners are made aware that supporting performance orientation is conducive to business success, they may make more use of this practice, and when owners are made aware that fostering uncertainty avoidance is detrimental to business success, they may make less use of this practice. The awareness that successful owners promote more humane orientation than unsuccessful owners may motivate owners to strive for business success.

To conclude, the concepts of owners' cultural orientations are useful for entrepreneurship research and may be of use to owners themselves. Therefore, future entrepreneurship research should focus not only on culture but also on cultural orientations.

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7. Appendix

Both in the first and the second part of the longitudinal research project (T1 and T2), we asked the owners and up to three of their employees to complete questionnaires. Of the scales and indices included in the questionnaires, only those are presented here that were used in the three studies comprised in this dissertation.¹ The items forming the scales and indices are given in English, Chinese, and German. In addition, descriptive statistics are provided, namely, coefficients alpha, means, standard deviations, and corrected item-total correlations or item intercorrelations for the scales, as well as means and standard deviations for the indices. The first and the second study, which were conducted in China and Germany, are cross-sectional in design. For those scales and indices that were used in these studies, descriptive statistics are provided for China and Germany at T1. The third study, which was conducted in Germany, is longitudinal in design. For those scales and indices that were used in this study, descriptive statistics are provided for Germany at T1 and T2.

Both in the first and the second part of the longitudinal research project (T1 and T2), we interviewed the owners and rated the interviews. Of the questions contained in the interview schemes and the anchors contained in the rating schemes, only those are presented here that were used in the second study.² The interview questions and rating anchors are given in English, Chinese, and German. In addition, intraclass coefficients are provided as inter-rater consistency measures. As the second study was conducted in China and Germany and is cross-sectional in design, intraclass coefficients are provided for China and Germany at T1.

¹ The other scales and indices are available upon request.

² The other interview questions and rating anchors are available upon request.

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7.1. Uncertainty Avoidance


Reference

König, C., Steinmetz, H., Frese, M., Rauch, A., & Wang, Z.-M. (2007). Scenario-based scales measuring cultural orientations of business owners. *Journal of Evolutionary Economics*, 17(2), 211-239.

English Items


UA-1

Imagine that one of your employees comes up with a new idea. His idea sounds promising but its implementation would necessitate considerable changes in your business routines. What do you do?

You encourage your employee to try out his idea.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremelyverysomewhatsomewhatveryextremely </div> <div style="display: flex; justify-content: space-around; text-align: center;"> true of metrue of me </div>	You refuse to implement your employee's idea. Changing your business routines is too risky to you.
--	---	--


UA-2

Imagine that one of your clients asks you to work on a project. Since neither you nor your employees have any experience in this field, working on the project would be a big challenge for your business. What do you do?

You accept the project. Exploring new fields will help to improve your business.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremelyverysomewhatsomewhatveryextremely </div> <div style="display: flex; justify-content: space-around; text-align: center;"> true of metrue of me </div>	You reject the project. Sticking to fields in which you are experienced is much more sensible to you.
--	---	---

UA-6


Imagine that one of your employees suggests extending your business to new areas in which you are not experienced yet. What do you do?

You implement your employee's suggestion. Extending your business to new areas will help to increase your competitiveness.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremelyverysomewhatsomewhatveryextremely </div> <div style="display: flex; justify-content: space-around; text-align: center;"> true of metrue of me </div>	You reject your employee's suggestion. Extending your business to new areas is too risky to you.
--	---	--

Chinese Items


UA-1

假设您的一名员工有一个新想法。这个想法似乎不错，但实施的话却要对您的业务程序做相当大的变动，您会做什么？

您鼓励您的员工尝试新点子。	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 非常很有点有点很非常 </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 符合我符合我 </div>	您不采用这个员工的点子。改变业务程序对您来说风险太大。
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UA-2

假设您的一位客户要求您进行一个项目，因为您自己或您的员工没有该领域的经验，进行该项目对您的业务发展是相当大的挑战，您会做什么？

接受该项目，开拓新领域有助于促进您的业务。	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 非常很有点有点很非常 </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 符合我符合我 </div>	拒绝该项目，对您来说，呆在有经验的业务领域更明智。
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UA-6

假设您的一名员工建议您把业务扩展到您没有经验的新领域，您会做什么？

您采纳员工的建议。把业务扩展到新领域有助于提升您的竞争力。	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> (1) 非常 符合我 </div> <div style="text-align: center;"> (2) 很 符合我 </div> <div style="text-align: center;"> (3) 有点 符合我 </div> <div style="text-align: center;"> (4) 有点 符合我 </div> <div style="text-align: center;"> (5) 很 符合我 </div> <div style="text-align: center;"> (6) 非常 符合我 </div> </div>	您拒绝员工的建议。对您而言，把业务扩展到新领域风险太高。
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German Items

UA-1

Stellen Sie sich vor, einer Ihrer Mitarbeiter hat eine neue Idee. Seine Idee klingt viel versprechend, doch ihre Umsetzung würde erhebliche Änderungen Ihrer Geschäftsroutinen notwendig machen. Wie verhalten Sie sich?

Sie ermutigen Ihren Mitarbeiter, seine Idee auszuprobieren.	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> (1) extrem auf mich zu </div> <div style="text-align: center;"> (2) trifft sehr auf mich zu </div> <div style="text-align: center;"> (3) etwas auf mich zu </div> <div style="text-align: center;"> (4) etwas auf mich zu </div> <div style="text-align: center;"> (5) trifft sehr auf mich zu </div> <div style="text-align: center;"> (6) extrem auf mich zu </div> </div>	Sie lehnen es ab, die Idee Ihres Mitarbeiters umzusetzen. Es ist Ihnen zu riskant, Ihre Geschäftsroutinen zu ändern.
---	--	--

UA-2

Stellen Sie sich vor, einer Ihrer Kunden bittet Sie, an einem Projekt zu arbeiten. Da weder Sie noch Ihre Mitarbeiter über Erfahrung auf diesem Gebiet verfügen, würde die Arbeit an dem Projekt eine große Herausforderung für Sie darstellen. Wie verhalten Sie sich?

Sie nehmen das Projekt an. Das Erschließen neuer Gebiete wird dazu beitragen, Ihr Unternehmen voranzubringen.	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> (1) extrem auf mich zu </div> <div style="text-align: center;"> (2) trifft sehr auf mich zu </div> <div style="text-align: center;"> (3) etwas auf mich zu </div> <div style="text-align: center;"> (4) etwas auf mich zu </div> <div style="text-align: center;"> (5) trifft sehr auf mich zu </div> <div style="text-align: center;"> (6) extrem auf mich zu </div> </div>	Sie lehnen das Projekt ab. Sie finden es vernünftiger, sich an Gebiete zu halten, auf denen Sie Erfahrung haben.
---	--	--

UA-6

Stellen Sie sich vor, einer Ihrer Mitarbeiter schlägt vor, Ihr Unternehmen auf neue Bereiche auszuweiten, in denen Sie bislang noch keine Erfahrung haben. Wie verhalten Sie sich?

Sie setzen den Vorschlag Ihres Mitarbeiters um. Die Ausweitung Ihres Unternehmens auf neue Bereiche wird dazu beitragen, Ihre Wettbewerbsfähigkeit zu erhöhen.	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> (1) extrem auf mich zu </div> <div style="text-align: center;"> (2) trifft sehr auf mich zu </div> <div style="text-align: center;"> (3) etwas auf mich zu </div> <div style="text-align: center;"> (4) etwas auf mich zu </div> <div style="text-align: center;"> (5) trifft sehr auf mich zu </div> <div style="text-align: center;"> (6) extrem auf mich zu </div> </div>	Sie lehnen den Vorschlag Ihres Mitarbeiters ab. Es ist Ihnen zu riskant, Ihr Unternehmen auf neue Bereiche auszuweiten.
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Descriptive Statistics

	China		Germany	
	T1	T2	T1	T2
Alpha	.49	-	.52	.67
Mean	2.77	-	2.65	2.72
SD	.90	-	.67	.70
N	241	-	192	149
Corrected Item-Total Correlations				
UA-1	.20	-	.28	.41
UA-2	.37	-	.41	.51
UA-6	.37	-	.33	.56

7.2. Power Distance


Reference

König, C., Steinmetz, H., Frese, M., Rauch, A., & Wang, Z.-M. (2007). Scenario-based scales measuring cultural orientations of business owners. *Journal of Evolutionary Economics*, 17(2), 211-239.

English Items


PD-1

Imagine that one of your employees challenges a rule you established in your business. What do you do?

You ask your employee to make suggestions about how to change the rule.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremelyverysomewhatsomewhatveryextremely </div> <div style="display: flex; justify-content: space-around; text-align: center;"> true of metrue of me </div>	You tell your employee to accept the rule.
---	---	--


PD-2

Imagine that you are faced with a difficult problem in your business. You are not sure how to solve it. What do you do?

You tell your employees about the problem and ask them for their help.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremelyverysomewhatsomewhatveryextremely </div> <div style="display: flex; justify-content: space-around; text-align: center;"> true of metrue of me </div>	You don't tell your employees about the problem and try to solve it by yourself.
--	---	--


PD-3

Imagine that one of your employees criticizes the way you run your business. What do you do?

You ask your employee to make suggestions for improvement.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremelyverysomewhatsomewhatveryextremely </div> <div style="display: flex; justify-content: space-around; text-align: center;"> true of metrue of me </div>	You tell your employee to stop his criticism.
--	---	---


PD-4

Imagine that you have to make a decision that has important consequences for your business. What do you do?

You make the decision after having consulted your employees.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremelyverysomewhatsomewhatveryextremely </div> <div style="display: flex; justify-content: space-around; text-align: center;"> true of metrue of me </div>	You make the decision without consulting your employees before.
--	---	---

PD-6


Imagine that one of your employees refuses to follow an instruction you gave him. What do you do?

You ask your employee for the reasons for his refusal.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremelyverysomewhatsomewhatveryextremely </div> <div style="display: flex; justify-content: space-around; text-align: center;"> true of metrue of me </div>	You reprimand your employee for his refusal.
--	---	--

Chinese Items

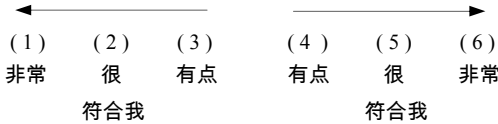
PD-1

假设您的一名员工质疑您建立的一条企业规则，您会做什么？

您向该员工征询改变规则的建议。	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 非常很有点有点很非常 </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 符合我符合我 </div>	您要该员工遵守该规则。
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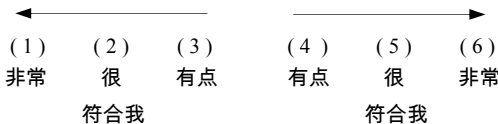
PD-2

假设您在经营中碰到一个难题，您不知道该怎么解决。您会做什么？

您告诉员工碰到的问题，并请员工帮助解决。	<div style="text-align: center;">  </div>	您不把该问题告诉员工，并试图自己解决。
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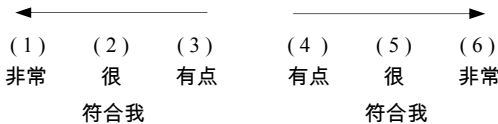
PD-3

假设您的一名员工对您经营公司的方式提出批评，您会做什么？

您请该员工提出改进意见。	<div style="text-align: center;">  </div>	您要该员工别在多说。
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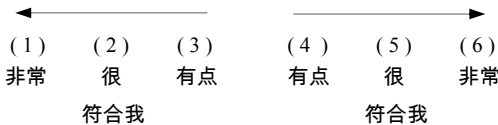
PD-4

假设您必须做出一项对业务有重大影响的决策，您会做什么？

您在征求过员工意见后做出决策。	<div style="text-align: center;">  </div>	您在做出决策前不征求员工意见。
-----------------	---	-----------------

PD-6

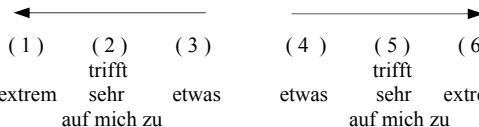
假设您的一名员工拒绝遵循您给他的指导，您会做什么？

您要该员工解释不遵循的理由。	<div style="text-align: center;">  </div>	您斥责该员工不听指挥。
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German Items

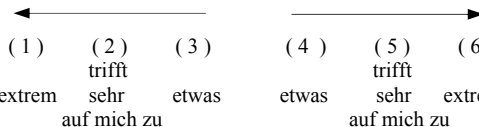
PD-1

Stellen Sie sich vor, einer Ihrer Mitarbeiter stellt eine Regel in Frage, die Sie in Ihrem Unternehmen aufgestellt haben. Wie verhalten Sie sich?

Sie bitten Ihren Mitarbeiter, Vorschläge zu machen, inwiefern man die Regel ändern könnte.	<div style="text-align: center;">  </div>	Sie fordern Ihren Mitarbeiter auf, die Regel zu akzeptieren.
--	---	--

PD-2

Stellen Sie sich vor, Sie stehen in Ihrem Unternehmen vor einem schwierigen Problem. Sie sind nicht sicher, wie Sie es lösen sollen. Wie verhalten Sie sich?

Sie erzählen Ihren Mitarbeitern von dem Problem und bitten sie um Hilfe.	<div style="text-align: center;">  </div>	Sie erzählen Ihren Mitarbeitern nicht von dem Problem und versuchen, es alleine zu lösen.
--	---	---

PD-3

Stellen Sie sich vor, einer Ihrer Mitarbeiter kritisiert die Art und Weise, wie Sie Ihr Unternehmen führen. Wie verhalten Sie sich?

Sie bitten Ihren Mitarbeiter, Verbesserungsvorschläge zu machen.	<div><div>←</div><div>→</div></div>						Sie fordern Ihren Mitarbeiter auf, seine Kritik zu unterlassen.
	(1)	(2)	(3)	(4)	(5)	(6)	
	extrem	trifft sehr	etwas	etwas	trifft sehr	extrem	
		auf mich zu			auf mich zu		

PD-4

Stellen Sie sich vor, Sie müssen eine Entscheidung treffen, die wichtige Konsequenzen für Ihr Unternehmen hat. Wie verhalten Sie sich?

Sie treffen die Entscheidung, nachdem Sie Ihre Mitarbeiter um Rat gefragt haben.	<div style="display: flex; justify-content: space-between; align-items: center;"><div style="text-align: center;"><div>←</div><div>(1) (2) (3)</div><div>extrem sehr etwas</div><div>auf mich zu</div></div><div style="text-align: center;"><div>→</div><div>(4) (5) (6)</div><div>etwas sehr extrem</div><div>auf mich zu</div></div></div>						Sie treffen die Entscheidung, ohne zuvor Ihre Mitarbeiter um Rat zu fragen.

PD-6

Stellen Sie sich vor, einer Ihrer Mitarbeiter weigert sich, eine Anweisung zu befolgen, die Sie ihm gegeben haben. Wie verhalten Sie sich?

Sie fragen Ihren Mitarbeitern nach den Gründen seiner Weigerung.	<div style="display: flex; justify-content: space-between; align-items: center;"><div style="text-align: center;"><div>←</div><div>(1) (2) (3)</div><div>extrem trifft etwas</div><div>auf mich zu</div></div><div style="text-align: center;"><div>→</div><div>(4) (5) (6)</div><div>etwas trifft extrem</div><div>auf mich zu</div></div></div>						Sie rügen Ihren Mitarbeiter für seine Weigerung.

Descriptive Statistics

	China		Germany	
	T1	T2	T1	T2
Alpha	.74	-	.75	.75
Mean	2.36	-	2.75	2.56
SD	.91	-	.84	.65
N	239	-	192	149
Corrected Item-Total Correlations				
PD-1	.48	-	.41	.51
PD-2	.49	-	.52	.48
PD-3	.59	-	.64	.67
PD-4	.54	-	.52	.48
PD-6	.45	-	.51	.49

7.3. Assertiveness


Reference

König, C., Steinmetz, H., Frese, M., Rauch, A., & Wang, Z.-M. (2007). Scenario-based scales measuring cultural orientations of business owners. *Journal of Evolutionary Economics*, 17(2), 211-239.

English Items


A-3

Imagine that one of your employees is very aggressive. He verbally attacks his co-workers whenever they don't agree with him. What do you do?

You tell your employee to change his behavior.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremelyverysomewhatsomewhatveryextremely </div> <div style="display: flex; justify-content: space-around; text-align: center;"> true of metrue of me </div>	You tolerate your employee's behavior.
--	---	--


A-5

Imagine that one of your employees is very dominant. He gives orders to his co-workers although he is not authorized to do so. What do you do?

You tell your employee to change his behavior.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremelyverysomewhatsomewhatveryextremely </div> <div style="display: flex; justify-content: space-around; text-align: center;"> true of metrue of me </div>	You tolerate your employee's behavior.
--	---	--

A-6


Imagine that one of your employees is very aggressive. Whenever he wants to achieve something, he bullies his co-workers. What do you do?

You tell your employee to change his behavior.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremelyverysomewhatsomewhatveryextremely </div> <div style="display: flex; justify-content: space-around; text-align: center;"> true of metrue of me </div>	You tolerate your employee's behavior.
--	---	--

Chinese Items


A-3

假定一名员工很有攻击性，只要他的同事有不同意，他就会恶语相击，您会做什么？

您告诉该员工改变这种行为。	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 非常很有点有点很非常 </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 符合我符合我 </div>	您容忍该员工的这种行为。
---------------	---	--------------


A-5

假定一名员工支配欲很强，会给他的同事下命令，尽管他没权这样做。您会做什么？

您告诉该员工改变这种行为。	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 非常很有点有点很非常 </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 符合我符合我 </div>	您容忍该员工的这种行为。
---------------	---	--------------

A-6

假定一名员工很有攻击性。他想达成某种目的时，总会胁迫他的同事。您会做什么？

您告诉该员工改变这种行为。	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 非常很有点有点很非常 </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 符合我符合我 </div>	您容忍该员工的这种行为。
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German Items

A-3

Stellen Sie sich vor, einer Ihrer Mitarbeiter ist sehr aggressiv. Immer wenn seine Kollegen nicht seiner Meinung sind, greift er sie verbal an. Wie verhalten Sie sich?

Sie fordern Ihren Mitarbeiter auf, sein Verhalten zu ändern.	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div>						Sie tolerieren das Verhalten Ihres Mitarbeiters.
	(1)	(2)	(3)	(4)	(5)	(6)	
	extrem	trifft sehr	etwas	etwas	trifft sehr	extrem	
		auf mich zu			auf mich zu		

A-5

Stellen Sie sich vor, einer Ihrer Mitarbeiter ist sehr dominant. Er gibt seinen Kollegen Anweisungen, obwohl er dazu nicht befugt ist. Wie verhalten Sie sich?

Sie fordern Ihren Mitarbeiter auf, sein Verhalten zu ändern.	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div>						Sie tolerieren das Verhalten Ihres Mitarbeiters.
	(1)	(2)	(3)	(4)	(5)	(6)	
	extrem	trifft sehr	etwas	etwas	trifft sehr	extrem	
		auf mich zu			auf mich zu		

A-6

Stellen Sie sich vor, einer Ihrer Mitarbeiter ist sehr aggressiv. Immer wenn er etwas durchsetzen möchte, schikaniert er seine Kollegen. Wie verhalten Sie sich?

Sie fordern Ihren Mitarbeiter auf, sein Verhalten zu ändern.	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div>						Sie tolerieren das Verhalten Ihres Mitarbeiters.
	(1)	(2)	(3)	(4)	(5)	(6)	
	extrem	trifft sehr	etwas	etwas	trifft sehr	extrem	
		auf mich zu			auf mich zu		

Descriptive Statistics

	China		Germany	
	T1	T2	T1	T2
Alpha	.63	-	.74	.86
Mean	1.92	-	1.75	1.72
SD	.83	-	.61	.60
N	240	-	193	149
Corrected Item-Total Correlations				
A-3	.50	-	.60	.52
A-5	.39	-	.51	.58
A-6	.47	-	.60	.65

7.4. Future Orientation


Reference

König, C., Steinmetz, H., Frese, M., Rauch, A., & Wang, Z.-M. (2007). Scenario-based scales measuring cultural orientations of business owners. *Journal of Evolutionary Economics*, 17(2), 211-239.

English Items


FO-2

Imagine that one of your employees asks you to give him general advice about how to work on a challenging project. What do you do?

You advise your employee to think about things as he goes along.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> (1) extremely true of me (2) very (3) somewhat (4) somewhat (5) very (6) extremely true of me </div>	You advise your employee to plan ahead.
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FO-4

Imagine that one of your employees suggests having regular meetings to plan for the future of your business. What do you do?

You tell your employee that too much planning for the future just distracts from current business.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> (1) extremely true of me (2) very (3) somewhat (4) somewhat (5) very (6) extremely true of me </div>	You are pleased with your employee's suggestion and implement it.
--	--	---

FO-6


Imagine that one of your employees asks you what to consider prior to starting a project. What do you do?

You advise your employee to start the project right away without considering its long term implications.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> (1) extremely true of me (2) very (3) somewhat (4) somewhat (5) very (6) extremely true of me </div>	You advise your employee to consider the long term implications of the project.
--	--	---

Chinese Items


FO-2

假定一名员工请您对如何完成一项富有挑战的项目给些一般性建议。您会怎么说？

您建议他多考虑眼前工作。	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> (1) 非常 (2) 很 (3) 有点 (4) 有点 (5) 很 (6) 非常 </div> <div style="display: flex; justify-content: space-around; padding: 0 10px;"> 符合我 符合我 </div>	您建议他要预先计划。
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FO-4

假设您的一名员工建议定期举行会议来规划公司。您会做什么？

您告诉该员工，对未来规划太多会分散对眼前业务的注意。	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> (1) 非常 (2) 很 (3) 有点 (4) 有点 (5) 很 (6) 非常 </div> <div style="display: flex; justify-content: space-around; padding: 0 10px;"> 符合我 符合我 </div>	员工能提出这样的建议您很满意，并采用该建议。
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FO-6

假设您的一名员工问您在启动项目前要考虑些什么，您会怎么回答？

您建议该员工立即启动项目，不用考虑项目的长期意义。	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> (1) 非常 (2) 很 (3) 有点 (4) 有点 (5) 很 (6) 非常 </div> <div style="display: flex; justify-content: space-around; padding: 0 10px;"> 符合我 符合我 </div>	您建议该员工考虑项目的长期意义。
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German Items

FO-2

Stellen Sie sich vor, einer Ihrer Mitarbeiter bittet Sie um einen allgemeinen Rat, wie er an einem anspruchsvollen Projekt arbeiten soll. Wie verhalten Sie sich?

Sie raten Ihrem Mitarbeiter, über die einzelnen Schritte erst dann nachzudenken, wenn sie anstehen.	<div><div><div>←</div><div>→</div></div><div><div>(1)</div><div>(2)</div><div>(3)</div><div>(4)</div><div>(5)</div><div>(6)</div></div><div><div>extrem</div><div>trifft</div><div>etwas</div><div>etwas</div><div>trifft</div><div>extrem</div></div><div><div>auf mich zu</div><div>auf mich zu</div></div></div>						Sie raten Ihrem Mitarbeiter, alle Schritte im Voraus zu planen.

FO-4

Stellen Sie sich vor, einer Ihrer Mitarbeiter schlägt regelmäßige Treffen vor, um die Zukunft Ihres Unternehmens zu planen. Wie verhalten Sie sich?

Sie sagen Ihrem Mitarbeiter, dass zuviel Zukunftsplanung nur vom gegenwärtigen Geschäftsbetrieb ablenkt.	<div><div>←</div><div>→</div></div>						Sie freuen sich über den Vorschlag Ihres Mitarbeiters und setzen ihn um.
	(1)	(2)	(3)	(4)	(5)	(6)	
	extrem	trifft sehr	etwas	etwas	trifft sehr	extrem	
		auf mich zu			auf mich zu		

FO-6

Stellen Sie sich vor, einer Ihrer Mitarbeiter fragt Sie, was es vor Beginn eines Projekts zu bedenken gibt. Wie verhalten Sie sich?

Sie raten Ihrem Mitarbeiter, umgehend mit dem Projekt zu beginnen, ohne dessen langfristige Auswirkungen zu bedenken.	<div><div>←</div><div>→</div></div> <div><div>(1)</div><div>(2)</div><div>(3)</div><div>(4)</div><div>(5)</div><div>(6)</div></div> <div><div>extrem</div><div>trifft</div><div>etwas</div><div>etwas</div><div>trifft</div><div>extrem</div></div> <div><div>auf mich zu</div><div>auf mich zu</div></div>						Sie raten Ihrem Mitarbeiter, die langfristigen Auswirkungen des Projekts zu bedenken.

Descriptive Statistics

	China		Germany	
	T1	T2	T1	T2
Alpha	.51	-	.62	.75
Mean	4.61	-	4.45	4.54
SD	.91	-	.75	.72
N	239	-	191	149
Corrected Item-Total Correlations				
FO-2	.33	-	.47	.52
FO-4	.26	-	.41	.58
FO-6	.41	-	.41	.65

7.5. Humane Orientation


Reference

König, C., Steinmetz, H., Frese, M., Rauch, A., & Wang, Z.-M. (2007). Scenario-based scales measuring cultural orientations of business owners. *Journal of Evolutionary Economics*, 17(2), 211-239.

English Items


HO-1

Imagine that one of your employees who always used to do his work properly suddenly makes a lot of mistakes. You find out that things are not going well for him in his private life. What do you do?

You are not willing to show any consideration for your employee's personal problems. You just tell him to get on top of them.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremelyverysomewhatsomewhatveryextremely </div> <div style="display: flex; justify-content: space-around; text-align: center;"> true of metrue of me </div>	You feel sorry for your employee and offer him your help.
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HO-3

Imagine that one of your employees asks you for special leave due to unexpected strains in his private life. What do you do?

You refuse to grant your employee special leave.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremelyverysomewhatsomewhatveryextremely </div> <div style="display: flex; justify-content: space-around; text-align: center;"> true of metrue of me </div>	You grant your employee special leave.
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HO-4

Imagine that one of your employees seems to be in a bad mood. What do you do?

You don't care about your employee's bad mood.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremelyverysomewhatsomewhatveryextremely </div> <div style="display: flex; justify-content: space-around; text-align: center;"> true of metrue of me </div>	You try to find out the reasons for your employee's bad mood.
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HO-6


Imagine that one of your employees is a single father. He has problems balancing the education of his children and his work. Therefore, he asks you to exempt him from working overtime. What do you do?

You refuse to exempt your employee from working overtime.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremelyverysomewhatsomewhatveryextremely </div> <div style="display: flex; justify-content: space-around; text-align: center;"> true of metrue of me </div>	You exempt your employee from working overtime.
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Chinese Items

HO-1

假设您的一名员工一直以来都能很好地完成工作，但突然犯了很多错误，您发现这是因为他的个人生活处理不好。您会做什么？

您不愿意表现出您关心员工的个人问题。您只是告诉他别在意这些。	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 非常很有点有点很非常 </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 符合我符合我 </div>	您很同情该员工并给他帮助。
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HO-3

假设您的一名员工向您请特假，因为他的个人生活碰到意外压力，您会做什么？

您不批准该员工的特假。	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> <div>(1) 非常 符合我</div> <div>(2) 很</div> <div>(3) 有点</div> <div>(4) 有点</div> <div>(5) 很 符合我</div> <div>(6) 非常</div> </div>	您批准该员工的特假。
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HO-4

假设您的一名员工看起来心情不好，您会做什么？

您并不关心该员工是否心情不好。	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> <div>(1) 非常 符合我</div> <div>(2) 很</div> <div>(3) 有点</div> <div>(4) 有点</div> <div>(5) 很 符合我</div> <div>(6) 非常</div> </div>	您试图找出该员工心情不好的原因。
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HO-6

假定一名员工是单身爸爸。他在教育孩子和工作上很难协调，因此他请您免除他的加班任务。您会做什么？

您拒绝免除加班任务，因为这会破坏公司关于员工都要加班的规定。	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> <div>(1) 非常 符合我</div> <div>(2) 很</div> <div>(3) 有点</div> <div>(4) 有点</div> <div>(5) 很 符合我</div> <div>(6) 非常</div> </div>	如果该员工能很好地完成自己的工作，您就会免除该员工的加班任务。
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German Items

HO-1

Stellen Sie sich vor, einer Ihrer Mitarbeiter hat seine Arbeit bisher immer sorgfältig erledigt. Auf einmal macht er viele Fehler. Sie finden heraus, dass es in seinem Privatleben gerade nicht so gut läuft. Wie verhalten Sie sich?

Sie sind nicht bereit, Rücksicht auf die persönlichen Probleme Ihres Mitarbeiters zu nehmen. Sie fordern ihn auf, seine Probleme in den Griff zu kriegen.	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> <div>(1) extrem</div> <div>(2) trifft sehr auf mich zu</div> <div>(3) etwas</div> <div>(4) etwas</div> <div>(5) trifft sehr auf mich zu</div> <div>(6) extrem</div> </div>	Sie haben Mitleid mit Ihrem Mitarbeiter und bieten ihm Ihre Hilfe an.
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HO-3

Stellen Sie sich vor, einer Ihrer Mitarbeiter bittet Sie aufgrund unerwarteter Belastungen in seinem Privatleben um Sonderurlaub. Wie verhalten Sie sich?

Sie lehnen es ab, Ihrem Mitarbeiter Sonderurlaub zu bewilligen.	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> <div>(1) extrem auf mich zu</div> <div>(2) trifft sehr auf mich zu</div> <div>(3) etwas</div> <div>(4) etwas</div> <div>(5) trifft sehr auf mich zu</div> <div>(6) extrem</div> </div>	Sie bewilligen Ihrem Mitarbeiter Sonderurlaub.
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HO-4

Stellen Sie sich vor, einer Ihrer Mitarbeiter scheint schlechte Laune zu haben. Wie verhalten Sie sich?

Die schlechte Laune Ihres Mitarbeiters ist Ihnen gleichgültig.	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> <div>(1) extrem auf mich zu</div> <div>(2) trifft sehr auf mich zu</div> <div>(3) etwas</div> <div>(4) etwas</div> <div>(5) trifft sehr auf mich zu</div> <div>(6) extrem</div> </div>	Sie versuchen herauszufinden, warum Ihr Mitarbeiter schlecht gelaunt ist.
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HO-6

Stellen Sie sich vor, einer Ihrer Mitarbeiter ist allein erziehender Vater. Es fällt ihm schwer, die Erziehung seiner Kinder mit seiner Arbeit zu vereinbaren. Daher bittet er Sie, ihm Überstunden zu erlassen. Wie verhalten Sie sich?

Sie lehnen es ab, Ihrem Mitarbeiter Überstunden zu erlassen.	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div>						Sie erlassen Ihrem Mitarbeiter Überstunden.
	(1)	(2)	(3)	(4)	(5)	(6)	
	extrem	trifft sehr	etwas	etwas	trifft sehr	extrem	
		auf mich zu			auf mich zu		

Descriptive Statistics

	China		Germany	
	T1	T2	T1	T2
Alpha	.63	-	.66	.73
Mean	4.71	-	4.60	4.46
SD	.76	-	.67	.61
N	242	-	193	149
Corrected Item-Total Correlations				
HO-1	.36	-	.49	.49
HO-3	.42	-	.52	.60
HO-4	.44	-	.30	.51
HO-6	.41	-	.47	.51

7.6. Performance Orientation

Reference

König, C., Steinmetz, H., Frese, M., Rauch, A., & Wang, Z.-M. (2007). Scenario-based scales measuring cultural orientations of business owners. *Journal of Evolutionary Economics*, 17(2), 211-239.

English Items

PO-2

Imagine that you plan to do a new project. Now you have to decide who among your employees will be part of the project team. What do you do?

You base your decision mainly on your employees' social skills.	<div style="text-align: center;"> </div>	You base your decision mainly on your employees' performance.
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PO-3

Imagine that you want to fill several high positions in your business. Now you have to decide who among your employees will be promoted. What do you do?

You promote your employees based on their seniority.	<div style="text-align: center;"> </div>	You promote your employees based on their performance.
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PO-5

Imagine that several people have applied for a job in your business. Now you have to choose between the applicants. What do you do?

You choose the applicant who socially fits best into your work-group.	<div style="text-align: center;"> </div>	You choose the applicant who shows the highest performance orientation.
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Chinese Items

PO-2

假设您计划做一个新项目。现在您必须决定哪几个员工参与该项目，您会做什么？

您主要根据员工的人际能力来决定。	<div style="text-align: center;"> </div>	您主要根据员工的绩效来决定。
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PO-3

假设您想填补公司的几个高层职位。现在您必须决定提拔哪些员工，您会做什么？

您根据员工的资历来提拔。	<div style="text-align: center;"> </div>	您根据员工的绩效来提拔。
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PO-5

假设有几个人来应聘您公司的工作。现在要在几个应聘者间做选择，您会做什么？

您选择在社交上最符合您的工作团队的求职者。	<div style="text-align: center;"> </div>	您选择表现出高绩效导向的求职者。
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German Items

PO-2

Stellen Sie sich vor, Sie planen ein neues Projekt. Nun müssen Sie entscheiden, wer von Ihren Mitarbeitern zum Projektteam gehören wird. Wie verhalten Sie sich?

Sie stützen Ihre Entscheidung vor allem auf die sozialen Fähigkeiten Ihrer Mitarbeiter.	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremtrifftetwasetwastrifftextrem </div> <div style="display: flex; justify-content: space-around; text-align: center;"> auf mich zuauf mich zu </div>	Sie stützen Ihre Entscheidung vor allem auf die Leistung Ihrer Mitarbeiter.
---	--	---

PO-3

Stellen Sie sich vor, Sie wollen mehrere hohe Positionen in Ihrem Unternehmen besetzen. Nun müssen Sie entscheiden, wer von Ihren Mitarbeitern befördert wird. Wie verhalten Sie sich?

Sie befördern Ihre Mitarbeiter nach der Länge ihrer Betriebszugehörigkeit.	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremtrifftetwasetwastrifftextrem </div> <div style="display: flex; justify-content: space-around; text-align: center;"> auf mich zuauf mich zu </div>	Sie befördern Ihre Mitarbeiter nach ihrer Leistung.
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PO-5

Stellen Sie sich vor, mehrere Leute haben sich um eine Stelle in Ihrem Unternehmen beworben. Nun müssen Sie zwischen den Bewerbern wählen. Wie verhalten Sie sich?

Sie wählen den Bewerber, der am besten in das soziale Gefüge Ihrer Arbeitsgruppe passt.	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremtrifftetwasetwastrifftextrem </div> <div style="display: flex; justify-content: space-around; text-align: center;"> auf mich zuauf mich zu </div>	Sie wählen den Bewerber, der die höchste Leistungsorientierung zeigt.
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Descriptive Statistics

	China		Germany	
	T1	T2	T1	T2
Alpha	.34	-	.56	.68
Mean	4.15	-	4.15	4.20
SD	.95	-	.78	.69
N	242	-	192	149
Corrected Item-Total Correlations				
PO-2	.20	-	.44	.59
PO-3	.24	-	.32	.39
PO-5	.18	-	.39	.57

7.7. Gender Egalitarianism

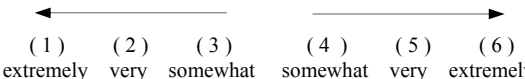
Reference

Addendum to 'König, C., Steinmetz, H., Frese, M., Rauch, A., & Wang, Z.-M. (2007). Scenario-based scales measuring cultural orientations of business owners. *Journal of Evolutionary Economics*, 17(2), 211-239.'

English Items

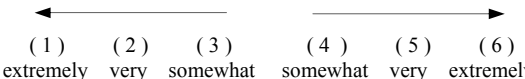
GE-1

Imagine that a male and a female have applied for a job in your business. Now you have to choose between the applicants. What do you do?

You choose the male, even if the female is better qualified.		Whether male or female, you choose the applicant who is better qualified.
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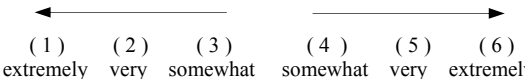
GE-3

Imagine that you want to fill a leading position in your business. Both a male employee and a female employee have asked for promotion. Now you have to decide who of them will be promoted. What do you do?

You promote the male employee, even if the female employee possesses better leadership skills.		Whether male or female, you promote the employee who possesses better leadership skills.
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GE-5

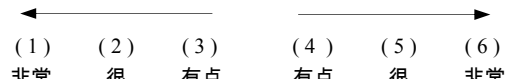
Imagine that you plan to go on a long business trip. Now you have to nominate a representative who manages your business while you are away. Both a male employee and a female employee have asked for nomination. What do you do?

You nominate the male employee, even if the female employee possesses better managerial skills.		Whether male or female, you nominate the employee who possesses better managerial skills.
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Chinese Items

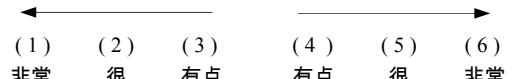
GE-1

假设有一位男士和一位女士都申请了您公司的一个职位。现在你需要在他们之间做出选择，您会怎么做？

选择男士，尽管这位女士是更胜任的。		不考虑性别，只选择更胜任该职位的人选。
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GE-3

假设你想填补公司中一个空缺的领导职位，现在有一位男雇员和一位女雇员都申请了升迁，您会选择谁？

升迁男雇员，尽管这位女雇员有更好的领导技巧。		不考虑性别，只选择拥有更强的领导技巧的雇员。
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GE-5

假定您要出差一段时间，需要指定一位临时的公司管理者，现在有一位男雇员和一位女雇员都申请被任命，您会怎么选择？

选择男雇员，尽管这位女雇员有更好的管理技巧。	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 非常很有点有点很非常 </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 符合我符合我 </div>	不考虑性别，只选择拥有更好的管理技巧的雇员。
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German Items

GE-1

Stellen Sie sich vor, ein Mann und eine Frau haben sich um eine Stelle in Ihrem Unternehmen beworben. Nun müssen Sie zwischen den Bewerbern wählen. Wie verhalten Sie sich?

Sie wählen den Mann, selbst wenn die Frau besser qualifiziert ist.	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremtrifftetwasetwastrifftextrem </div> <div style="display: flex; justify-content: space-around; text-align: center;"> auf mich zuauf mich zu </div>	Egal ob Mann oder Frau, Sie wählen den Bewerber, der besser qualifiziert ist.
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GE-3

Stellen Sie sich vor, Sie wollen eine Führungsposition in Ihrem Unternehmen besetzen. Sowohl ein Mitarbeiter als auch eine Mitarbeiterin haben sich um die Beförderung beworben. Nun müssen Sie entscheiden, wer von ihnen befördert wird. Wie verhalten Sie sich?

Sie befördern den Mitarbeiter, selbst wenn die Mitarbeiterin über die besseren Führungsqualitäten verfügt.	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremtrifftetwasetwastrifftextrem </div> <div style="display: flex; justify-content: space-around; text-align: center;"> auf mich zuauf mich zu </div>	Egal ob Mann oder Frau, Sie befördern den Mitarbeiter, der über die besseren Führungsqualitäten verfügt.
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GE-5

Stellen Sie sich vor, Sie beabsichtigen, eine lange Geschäftsreise zu machen. Nun müssen Sie einen Vertreter ernennen, der Ihr Unternehmen während Ihrer Abwesenheit führt. Sowohl ein Mitarbeiter als auch eine Mitarbeiterin haben sich um die Ernennung beworben. Wie verhalten Sie sich?

Sie ernennen den Mitarbeiter, selbst wenn die Mitarbeiterin über die besseren Führungsqualitäten verfügt.	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremtrifftetwasetwastrifftextrem </div> <div style="display: flex; justify-content: space-around; text-align: center;"> auf mich zuauf mich zu </div>	Egal ob Mann oder Frau, Sie ernennen den Mitarbeiter, der über die besseren Führungsqualitäten verfügt.
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Descriptive Statistics

	China T2	Germany T2
Alpha	-	.93
Mean	-	5.11
SD	-	.84
N	-	149
Corrected Item-Total Correlations		
GE-1	-	.84
GE-3	-	.90
GE-5	-	.86

7.8. Institutional Collectivism


Reference

Addendum to 'König, C., Steinmetz, H., Frese, M., Rauch, A., & Wang, Z.-M. (2007). Scenario-based scales measuring cultural orientations of business owners. *Journal of Evolutionary Economics*, 17(2), 211-239.'

English Items


IC-2

Imagine that your business has been very successful lately. Now you want to reward your employees. What do you do?

You reward your employees depending on their contributions to the success of your business.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> extremelyverysomewhatsomewhatveryextremely </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> true of metrue of me </div>	You reward your employees equally.
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IC-3

Imagine that one of your employees accomplishes more than his co-workers. What do you do?

You emphasize the accomplishments of your employee and promote him more than his co-workers.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> extremelyverysomewhatsomewhatveryextremely </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> true of metrue of me </div>	You do not emphasize the accomplishments of your employee and promote him just as much as his co-workers.
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IC-4


Imagine that you want to introduce a reward system in your business. Now you have to decide how to distribute the rewards among your employees. What do you do?

You distribute the rewards depending on your employees' accomplishments.	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> extremelyverysomewhatsomewhatveryextremely </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> true of metrue of me </div>	You distribute the rewards equally among your employees.
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Chinese Items


IC-2

假定您的公司后来非常的成功，现在你想奖励您的员工，您会怎么做？

根据员工对公司成功的贡献程度来进行奖励。	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> 非常很有点有点很非常 </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> 符合我符合我 </div>	对员工进行平均的奖励。
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IC-3

假设您的一位员工比他的同事做出了更多的业绩，您会怎么做？

强调他的业绩，并且给他比他的同事获得更多的晋升机会。	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> 非常很有点有点很非常 </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> 符合我符合我 </div>	并不强调他的成绩，他和同事的晋升机会是一样的。
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IC-4

假定现在您要在公司引入一套新的奖励体系，你会怎样来分配奖励？

根据员工的业绩来进行分配。	<div style="text-align: center;">  </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> 非常很有点有点很非常 </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> 符合我符合我 </div>	在员工之间进行平均的分配。
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German Items

IC-2

Stellen Sie sich vor, Ihr Unternehmen war in letzter Zeit sehr erfolgreich. Nun wollen Sie Ihre Mitarbeiter entlohnen. Wie verhalten Sie sich?

Sie entlohnen Ihre Mitarbeiter in Abhängigkeit von ihren Beiträgen zum Erfolg Ihres Unternehmens.	<div style="text-align: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremtrifftetwasetwastrifftextrem </div> <div style="display: flex; justify-content: space-around; text-align: center;"> auf mich zuauf mich zu </div>	Sie entlohnen Ihre Mitarbeiter gleichmäßig.
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IC-3

Stellen Sie sich vor, einer Ihrer Mitarbeiter leistet mehr als seine Kollegen. Wie verhalten Sie sich?

Sie heben die Leistungen Ihres Mitarbeiters hervor und fördern ihn mehr als seine Kollegen.	<div style="text-align: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremtrifftetwasetwastrifftextrem </div> <div style="display: flex; justify-content: space-around; text-align: center;"> auf mich zuauf mich zu </div>	Sie heben die Leistungen Ihres Mitarbeiters nicht hervor und fördern ihn genauso viel wie seine Kollegen.
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IC-4

Stellen Sie sich vor, Sie wollen in Ihrem Unternehmen ein Entlohnungssystem einführen. Nun müssen Sie entscheiden, wie Sie die Entlohnungen unter Ihren Mitarbeitern verteilen. Wie verhalten Sie sich?

Sie verteilen die Entlohnungen in Abhängigkeit von den Leistungen Ihrer Mitarbeiter.	<div style="text-align: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1)(2)(3)(4)(5)(6) </div> <div style="display: flex; justify-content: space-around; text-align: center;"> extremtrifftetwasetwastrifftextrem </div> <div style="display: flex; justify-content: space-around; text-align: center;"> auf mich zuauf mich zu </div>	Sie verteilen die Entlohnungen gleichmäßig unter Ihren Mitarbeitern.
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Descriptive Statistics

	China T2	Germany T2
Alpha	-	.77
Mean	-	2.73
SD	-	.81
N	-	149
Corrected Item-Total Correlations		
IC-2	-	.57
IC-3	-	.54
IC-4	-	.71

7.9. In-Group Collectivism

Reference

König, C., Steinmetz, H., Frese, M., Rauch, A., & Wang, Z.-M. (2007). Scenario-based scales measuring cultural orientations of business owners. *Journal of Evolutionary Economics*, 17(2), 211-239.

English Items

C-5

Imagine that you want to employ a new secretary who has at least three years of work experience. Now your best friend's wife applies for the job. She is well qualified but has only been working for one year. What do you do?

You stick to your requirements and don't employ your best friend's wife.		You make an exception to your requirements and employ your best friend's wife.
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C-7

Imagine that your nephew asks you to employ him in your business. You don't consider him to be sufficiently qualified. What do you do?

You don't employ your nephew due to his poor qualification.		You employ your nephew regardless of his poor qualification.
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Chinese Items

C-5

假设您想雇个新秘书，需要有三年以上工作经验。现在您好友的妻子来应聘，她能胜任但只有一年工作经验，您会做什么？

您坚持招聘要求，不雇佣您好友的妻子。		您作为例外处理，雇佣您好友的妻子。
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C-7

假设您的侄子请您雇他在公司工作，但您并不认为他能胜任，您会做什么？

您不雇佣您的侄子，因为他不能胜任。		您雇佣您的侄子，不管他是不是胜任。
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German Items

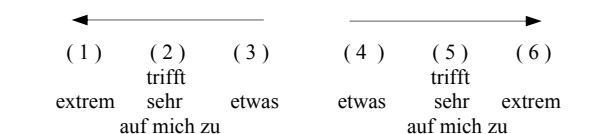
C-5

Stellen Sie sich vor, Sie wollen eine neue Sekretärin einstellen, die mindestens drei Jahre Berufserfahrung hat. Nun bewirbt sich die Frau Ihres besten Freundes um die Stelle. Sie ist zwar gut qualifiziert, hat jedoch lediglich ein Jahr Berufserfahrung. Wie verhalten Sie sich?

Sie halten an Ihren Anforderungen fest und stellen die Frau Ihres besten Freundes nicht ein.		Sie sehen über Ihre Anforderungen hinweg und stellen die Frau Ihres besten Freundes ein.
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C-7

Stellen Sie sich vor, Ihr Neffe bittet Sie, ihn in Ihrem Unternehmen einzustellen. Sie halten ihn nicht für ausreichend qualifiziert. Wie verhalten Sie sich?

Aufgrund seiner unzureichenden Qualifikation stellen Sie Ihren Neffen nicht ein.							Trotz seiner unzureichenden Qualifikation stellen Sie Ihren Neffen ein.
	(1)	(2)	(3)	(4)	(5)	(6)	

Descriptive Statistics

	China T1	Germany T1
Alpha	.39	.49
Mean	2.28	2.52
SD	.94	.95
N	237	194
Item Intercorrelations		
C-5 / C-7	.25	.33

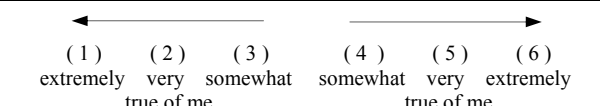
Reference

Addendum to 'König, C., Steinmetz, H., Frese, M., Rauch, A., & Wang, Z.-M. (2007). Scenario-based scales measuring cultural orientations of business owners. *Journal of Evolutionary Economics*, 17(2), 211-239.'

English Items

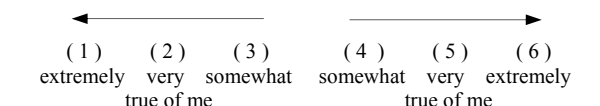
CN-1

Imagine that one of your employees asks you to exempt him from working on weekends because he wants to spend more time with his children. What do you do?

You refuse to exempt your employee from working on weekends.							You exempt your employee from working on weekends.
	(1)	(2)	(3)	(4)	(5)	(6)	

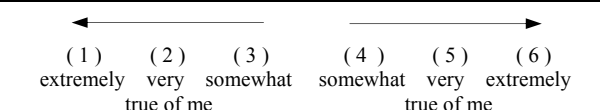
CN-2

Imagine that one of your employees asks you for special leave because he wants to help some close friends of his who are in trouble. What do you do?

You refuse to grant your employee special leave.							You grant your employee special leave.
	(1)	(2)	(3)	(4)	(5)	(6)	

CN-3

Imagine that one of your employees asks you to exempt him from working overtime because he wants to care more for his aging parents. What do you do?

You refuse to exempt your employee from working overtime.							You exempt your employee from working overtime.
	(1)	(2)	(3)	(4)	(5)	(6)	

Chinese Items

CN-1

假定您的一位员工向您申请不在周末进行工作，因为他想更多的和孩子在一起，您会怎么做？

拒绝员工的请求。	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1) 非常 (2) 很 (3) 有点 (4) 有点 (5) 很 (6) 非常 </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 符合我 符合我 </div>	同意员工的请求。
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CN-2

假定您的一位员工向您申请离开一段时间，因为他去想帮助一位有麻烦的好朋友，您会怎么做？

拒绝员工的请求。	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1) 非常 (2) 很 (3) 有点 (4) 有点 (5) 很 (6) 非常 </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 符合我 符合我 </div>	同意员工的请求。
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CN-3

假定您的一位员工向您申请不再加班，因为他想有更多的时间和父母在一起，您会怎么做？

拒绝员工的请求。	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1) 非常 (2) 很 (3) 有点 (4) 有点 (5) 很 (6) 非常 </div> <div style="display: flex; justify-content: space-around; text-align: center;"> 符合我 符合我 </div>	同意员工的请求。
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German Items

CN-1

Stellen Sie sich vor, einer Ihrer Mitarbeiter bittet Sie, ihm Wochenendarbeit zu erlassen, weil er mehr Zeit mit seinen Kindern verbringen möchte. Wie verhalten Sie sich?

Sie lehnen es ab, Ihrem Mitarbeiter Wochenendarbeit zu erlassen.	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1) extrem (2) trifft sehr (3) etwas (4) etwas (5) trifft sehr (6) extrem </div> <div style="display: flex; justify-content: space-around; text-align: center;"> auf mich zu auf mich zu </div>	Sie erlassen Ihrem Mitarbeiter Wochenendarbeit.
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CN-2

Stellen Sie sich vor, einer Ihrer Mitarbeiter bittet Sie um Sonderurlaub, weil er engen Freunden helfen möchte, die in Schwierigkeiten stecken. Wie verhalten Sie sich?

Sie lehnen es ab, Ihrem Mitarbeiter Sonderurlaub zu bewilligen.	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1) extrem (2) trifft sehr (3) etwas (4) etwas (5) trifft sehr (6) extrem </div> <div style="display: flex; justify-content: space-around; text-align: center;"> auf mich zu auf mich zu </div>	Sie bewilligen Ihrem Mitarbeiter Sonderurlaub.
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CN-3

Stellen Sie sich vor, einer Ihrer Mitarbeiter bittet Sie, ihm Überstunden zu erlassen, weil er sich mehr um seine alten Eltern kümmern möchte. Wie verhalten Sie sich?

Sie lehnen es ab, Ihrem Mitarbeiter Überstunden zu erlassen.	<div style="display: flex; justify-content: space-between; align-items: center;"> ← → </div> <div style="display: flex; justify-content: space-around; text-align: center;"> (1) extrem (2) trifft sehr (3) etwas (4) etwas (5) trifft sehr (6) extrem </div> <div style="display: flex; justify-content: space-around; text-align: center;"> auf mich zu auf mich zu </div>	Sie erlassen Ihrem Mitarbeiter Überstunden.
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Descriptive Statistics

	China T2	Germany T2
Alpha	-	.87
Mean	-	4.06
SD	-	1.01
N	-	149
Corrected Item-Total Correlations		
CN-1	-	.73
CN-2	-	.74
CN-3	-	.80

7.10. Business Success

References

Van Dyck, C., Frese, M., Baer, M., & Sonnentag, S. (2005). Organizational error management culture and its impact on performance: A two-study replication. *Journal of Applied Psychology*, 60(6), 1228-1240.

Wiklund, J., & Shepherd, D. (2003). Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-size businesses. *Strategic Management Journal*, 24, 1307-1314.

English Items

SUCOTH

How successful do others think you are as a business owner?				
1 () not at all successful	2 () not that successful	3 () medium successful	4 () somewhat successful	5 () very successful

SUCSELF1

How successful are you in comparison with your competitors?					
1 () I belong to the less successful half of the busi- ness owners.	2 () I belong to the more successful half of the busi- ness owners.	3 () I belong to the upper 25% of successful busi- ness owners.	4 () I belong to the 10% most suc- cessful business owners.	5 () I belong to the most successful business own- ers.	6 () I am the most successful busi- ness owner.

OWNSUCC1

How successful is your business in comparison to other businesses in the same industry and of about the same size?				
1 () not at all successful	2 () not that successful	3 () medium successful	4 () somewhat successful	5 () very successful

During the last three years, how did your business develop in comparison to your two most important competitors?

SUBSU		1 much worse	2 worse	3 medium	4 better	5 much better
1	sales growth	()	()	()	()	()
2	revenue growth	()	()	()	()	()
3	growth in employees	()	()	()	()	()
4	net / profit margin	()	()	()	()	()
5	product / service innova- tion	()	()	()	()	()
6	process innovation	()	()	()	()	()

7	adoption of new technology	()	()	()	()	()
8	product / service quality	()	()	()	()	()
9	product / service variety	()	()	()	()	()
10	customer satisfaction	()	()	()	()	()

Chinese Items

SUCOTH

您觉得其他人会认为作为企业主的您有多成功？

1 () 完全不成功	2 () 不太成功	3 () 一般成功	4 () 有些成功	5 () 非常成功
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SUCSELF1

和竞争者相比，您有多成功？

1 () 我属于企业主 中不太成功的 那一半。	2 () 我属于企业主 中比较成功的 那一半。	3 () 我属于企业主 的前25%。	4 () 我属于企业主 中的前10%。	5 () 我属于最成 功的企业主之 一。	6 () 我是最成功的 企业主。
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OWNSUCC1

和同行业、同规模的企业相比，您的企业有多成功？

1 () 完全不成功	2 () 不太成功	3 () 一般成功	4 () 有些成功	5 () 非常成功
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与您的两个最重要的竞争者相比，近三年中，您的企业发展情况如何？

SUBSU		1 糟很多	2 糟	3 一样	4 好	5 好很多
1	销售成长	()	()	()	()	()
2	收入成长	()	()	()	()	()
3	员工增长	()	()	()	()	()
4	净收入/利润	()	()	()	()	()
5	产品/服务创新	()	()	()	()	()
6	过程创新	()	()	()	()	()
7	新技术采用	()	()	()	()	()
8	产品/服务质量	()	()	()	()	()

9	产品/服务种类	()	()	()	()	()
10	客户满意度	()	()	()	()	()

German Items

SUCOTH

Für wie erfolgreich halten andere Sie als Unternehmer?

1 () überhaupt nicht erfolgreich	2 () nicht so erfolgreich	3 () mittelmäßig erfolgreich	4 () erfolgreich	5 () sehr erfolgreich
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SUCSELF1

Wie erfolgreich sind Sie im Vergleich zu Ihrer Konkurrenz?

1 () Ich gehöre zur weniger erfolg- reichen Hälfte der Unterneh- mer.	2 () Ich gehöre zur erfolgreicheren Hälfte der Un- ternehmer.	3 () Ich gehöre zu den 25 Prozent der erfolg- reichsten Un- ternehmer.	4 () Ich gehöre zu den 10 Prozent der erfolg- reichsten Un- ternehmer.	5 () Ich gehöre zu den erfolg- reichsten Un- ternehmern.	6 () Ich bin der er- folgreichste Un- ternehmer.
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OWNSUCC1

Wie erfolgreich ist Ihr Unternehmen im Vergleich zu anderen Unternehmen derselben Branche und etwa der-
selben Größe?

1 () überhaupt nicht erfolgreich	2 () nicht so erfolgreich	3 () mittelmäßig erfolgreich	4 () erfolgreich	5 () sehr erfolgreich
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Wie hat sich Ihr Unternehmen in den letzten zwei Jahren im Vergleich zu seinen zwei wichtigsten Konkurrenz-
unternehmen entwickelt?

SUBSU		1 viel schlechter	2 schlechter	3 mittelmäßig	4 besser	5 viel besser
1	Umsatzwachstum	()	()	()	()	()
2	Einkommenswachstum	()	()	()	()	()
3	Zuwachs an Mitarbeitern	()	()	()	()	()
4	Gewinnspanne	()	()	()	()	()
5	Produkt- / Dienstleis- tungsinnovationen	()	()	()	()	()
6	Prozessinnovationen	()	()	()	()	()
7	Einführung neuer Tech- nologien	()	()	()	()	()
8	Produkt- / Servicequalität	()	()	()	()	()
9	Produkt- / Servicevielfalt	()	()	()	()	()
10	Kundenzufriedenheit	()	()	()	()	()

Descriptive Statistics

	China		Germany	
	T1	T2	T1	T2
Mean	-.01	-	-.01	-.01
SD	.71	-	.59	.62
N	248	-	257	190

Note. Business success was measured using an index. Due to their different scalings, the items were z-standardized before the index was formed.

7.11. Achievement Striving

Reference

Costa, P. T., & McCrae, R. R. (1992). Normal personality assessment in clinical practice: The NEO Personality Inventory. *Psychological Assessment*, 4(1), 5-13.

English Items

		1 strongly disagree	2 disagree	3 neutral	4 agree	5 strongly agree
CONS-7	I work hard to accomplish my goals.	()	()	()	()	()
CONS-8	I have a clear set of goals and work toward them in an orderly fashion.	()	()	()	()	()

Chinese Items

		1 非常 不同意	2 不同意	3 中等	4 同意	5 非常 同意
CONS-7	我努力工作以实现我的目标。	()	()	()	()	()
CONS-8	我有一组清晰的目标并努力依序实现之。	()	()	()	()	()

German Items

		1 lehne stark ab	2 lehne ab	3 neutral	4 stimme zu	5 stimme stark zu
CONS-7	Ich arbeite hart, um meine Ziele zu erreichen.	()	()	()	()	()
CONS-8	Ich habe eine Reihe von klaren Zielen und arbeite systematisch auf sie zu.	()	()	()	()	()

Descriptive Statistics

	China T1	Germany T1
Alpha	.67	.69
Mean	4.17	4.11
SD	.53	.61
N	249	256
Item Intercorrelations		
CONS-7 / -8	.51	.53

7.12. Deliberation

Reference

Costa, P. T., & McCrae, R. R. (1992). Normal personality assessment in clinical practice: The NEO Personality Inventory. *Psychological Assessment*, 4(1), 5-13.

English Items

		1 strongly disagree	2 disagree	3 neutral	4 agree	5 strongly agree
CONS-11	I think things through before coming to a decision.	()	()	()	()	()
CONS-12	I rarely make hasty decisions.	()	()	()	()	()

Chinese Items

		1 非常 不同意	2 不同意	3 中等	4 同意	5 非常 同意
CONS-11	在做决策前，我会多方考量。	()	()	()	()	()
CONS-12	我很少仓促地做出决策。	()	()	()	()	()

German Items

		1 lehne stark ab	2 lehne ab	3 neutral	4 stimme zu	5 stimme stark zu
CONS-11	Ich denke gründlich über etwas nach, bevor ich eine Entscheidung treffe.	()	()	()	()	()
CONS-12	Ich treffe nur selten voreilige Entscheidungen.	()	()	()	()	()

Descriptive Statistics

	China T1	Germany T1
Alpha	.48	.61
Mean	4.08	3.91
SD	.62	.62
N	249	256
Item Intercorrelations		
CONS-11 / -12	.33	.44

7.13. Error Communication

Reference

Rybowiak, V., Garst, H., Frese, M., & Batinic, B. (1999). Error orientation questionnaire (EOQ): Reliability, validity, and different language equivalence. *Journal of Organizational Behavior*, 20, 527-547.

English Items

		1 does not apply at all	2 applies only little	3 middle	4 applies pre- dominantly	5 applies completely
COM-2	If I cannot rectify an error by myself, I turn to my employees.	()	()	()	()	()
COM-3	If I cannot manage to correct a mistake, I can rely on others.	()	()	()	()	()

Chinese Items

		1 完全 不适用	2 有点 不适用	3 中等	4 比较 适用	5 完全 适用
COM-2	如果我不能矫正错误，我会去找我的同事。	()	()	()	()	()
COM-3	如果我不能成功纠正错误，我会依靠其他人。	()	()	()	()	()

German Items

		1 trifft gar nicht zu	2 trifft wenig zu	3 trifft mittel- mäßig zu	4 trifft über- wiegend zu	5 trifft völlig zu
COM-2	Wenn ich einen Fehler alleine nicht beheben kann, wende ich mich an meine Mitarbeiter.	()	()	()	()	()
COM-3	Wenn ich bei einem Fehler nicht mehr weiter weiß, kann ich mich auf die anderen verlassen.	()	()	()	()	()

Descriptive Statistics

	China T1	Germany T1
Alpha	.65	.66
Mean	3.58	3.74
SD	.86	.82
N	246	192
Item Intercorrelations		
COM-2 / -3	.48	.51

7.14. Meta-Cognitive Activity

Reference

Schmidt, A. M., & Ford, J. K. (2003). Learning within a learner control training environment: The interactive effects of goal orientation and metacognitive instruction on learning outcomes. *Personnel Psychology*, 56(2), 405-429.

English Items

		1 strongly disagree	2 disagree	3 neutral	4 agree	5 strongly agree
MCA-8	I think about what skills need the most practice.	()	()	()	()	()
MCA-9	I notice in which areas I make the most mistakes and focus on improving these areas.	()	()	()	()	()
MCA-10	I carefully select tasks and activities to improve on weaknesses identified while running the business.	()	()	()	()	()

Chinese Items

		1 非常 不同意	2 不同意	3 中等	4 同意	5 非常 同意
MCA-8	我常思考我有哪些技能最需要多多练习。	()	()	()	()	()
MCA-9	我注意我犯错较多的方面，并注重改进这些方面。	()	()	()	()	()
MCA-10	我仔细选择任务和活动以改进业务运作中发现的不足之处。	()	()	()	()	()

German Items

		1 lehne stark ab	2 lehne ab	3 neutral	4 stimme zu	5 stimme stark zu
MCA-8	Ich überlege mir, welche meiner Fertigkeiten am meisten Übung brauchen.	()	()	()	()	()
MCA-9	Ich achte darauf, in welchen Bereichen ich die meisten Fehler mache, und konzentriere mich darauf, diese Bereiche zu verbessern.	()	()	()	()	()
MCA-10	Ich wähle sorgfältig Aufgaben und Aktivitäten aus, um Schwachstellen zu verbessern, die mir beim Führen meines Unternehmens aufgefallen sind.	()	()	()	()	()

Descriptive Statistics

	China T1	Germany T1
Alpha	.72	.76
Mean	4.01	3.77
SD	.58	.61
N	248	194
Corrected Item-Total Correlations		
MCA-8	.47	.64
MCA-9	.62	.60
MCA-10	.52	.54

7.15. Task-Oriented Personal Initiative

Reference

Frese, M., Fay, D., Hilburger, T., Leng, K., & Tag, A. (1997). The concept of personal initiative: Operationalization, reliability and validity in two German samples. *Journal of Organizational and Occupational Psychology*, 70, 139-161.

English Items

		1 does not apply at all	2 applies only little	3 middle	4 applies pre- dominantly	5 applies completely
PIQ-1	I actively attack problems.	()	()	()	()	()
PIQ-4	I take initiative immediately even when others don't.	()	()	()	()	()
PIQ-5	I use my opportunities quickly in order to attain my goals.	()	()	()	()	()

Chinese Items

		1 完全 不适用	2 有点 不适用	3 中等	4 比较 适用	5 完全 适用
PIQ-1	我积极应对问题。	()	()	()	()	()
PIQ-4	我会立即采取措施，甚至其他人尚未行动。	()	()	()	()	()
PIQ-5	为达成目标，我会尽快利用机会。	()	()	()	()	()

German Items

		1 trifft gar nicht zu	2 trifft wenig zu	3 trifft mittel- mäßig zu	4 trifft über- wiegend zu	5 trifft völlig zu
PIQ-1	Ich gehe Probleme aktiv an.	()	()	()	()	()
PIQ-4	Ich ergreife sofort die Initiative, auch wenn andere dies nicht tun.	()	()	()	()	()
PIQ-5	Ich nehme Gelegenheiten schnell wahr, um meine Ziele zu erreichen.	()	()	()	()	()

Descriptive Statistics

	China T1	Germany T1
Alpha	.72	.70
Mean	4.00	3.87
SD	.53	.57
N	249	194
Corrected Item-Total Correlations		
PIQ-1	.41	.44
PIQ-4	.58	.52
PIQ-5	.69	.59

7.16. Relationship-Oriented Personal Initiative

Reference

Frese, M., König, C., & Rauch, A. (2005). Scale manual of the research project 'Psychological factors of entrepreneurial success in China and Germany'. Giessen: Department of Psychology.

English Items

		1 does not apply at all	2 applies only little	3 middle	4 applies pre- dominantly	5 applies completely
PIQ-8	I actively seek to improve my business relationships.	()	()	()	()	()
PIQ-10	Whenever there is a chance to socialize with new business partners, I take it.	()	()	()	()	()
PIQ-12	I use my opportunities quickly in order to build up a business network.	()	()	()	()	()
PIQ-14	I am particularly good at cultivating my business relationships.	()	()	()	()	()

Chinese Items

		1 完全 不适用	2 有点 不适用	3 中等	4 比较 适用	5 完全 适用
PIQ-8	我积极寻求改进我的商业关系。	()	()	()	()	()
PIQ-10	只要有机会结交商业伙伴，我都会抓住。	()	()	()	()	()
PIQ-12	抓住机会迅速构建商务网络。	()	()	()	()	()
PIQ-14	我很善于培养商业关系。	()	()	()	()	()

German Items

		1 trifft gar nicht zu	2 trifft wenig zu	3 trifft mittel- mäßig zu	4 trifft über- wiegend zu	5 trifft völlig zu
PIQ-8	Ich bemühe mich aktiv darum, meine Geschäftsbeziehungen zu verbessern.	()	()	()	()	()
PIQ-10	Wenn sich eine Möglichkeit bietet, Kontakte mit neuen Geschäftspartnern zu knüpfen, nutze ich sie.	()	()	()	()	()
PIQ-12	Ich nehme Gelegenheiten schnell wahr, um ein geschäftliches Netzwerk aufzubauen.	()	()	()	()	()
PIQ-14	Ich bin besonders gut darin, meine Geschäftsbeziehungen zu pflegen.	()	()	()	()	()

Descriptive Statistics

	China T1	Germany T1
Alpha	.80	.79
Mean	3.90	3.69
SD	.58	.64
N	249	194
Corrected Item-Total Correlations		
PIQ-8	.67	.65
PIQ-10	.56	.63
PIQ-12	.62	.59
PIQ-14	.61	.55

7.17. Vision Characteristics

References

Baum, J. R., Locke, E. A., & Kirkpatrick, S. A. (1998). A longitudinal study of the relation of vision and vision communication to venture growth in entrepreneurial firms. *Journal of Applied Psychology*, 83(1), 43-54.

Locke, E. A., Kirkpatrick, S., Wheeler, J. K., Schneider, J., Niles, K., Goldstein, H., et al. (1991). *The essence of leadership: The four keys to leading successfully*. New York: Lexington Books.

English Interview Scheme

Now we are interested in the vision that you have for your business. How do you imagine the future of your business? What do you wish for the future of your business? We are interested in the vision that emotionally drives and inspires you as a business owner.

V-1 Do you have a vision for your business?



If the answer is “yes”:

V-2 Is your vision written or unwritten?



If the vision is written:

V-2a Could you please give us a copy of your vision?



If the vision is unwritten:

V-2b Could you please write your vision down?

Chinese Interview Scheme

我们对您企业的愿景比较感兴趣。对于企业的未来，您是如何设想的？对于企业的未来您有什么期望？我们对愿景比较感兴趣，它从情感上来鼓舞与激励您。

V-1 您的企业有愿景吗？



如果答案回答“有”：

V-2 您的愿景是不是书面的？



如果回答“是”：

V-2a 您能给我们一份您的愿景吗？



如果回答“不是”：

V-2b 请把您的愿景写下来，好吗？

German Interview Scheme

Nun interessieren wir uns für die Vision, die Sie für Ihr Unternehmen haben. Wie stellen Sie sich die Zukunft Ihres Unternehmens vor? Was wünschen Sie sich für die Zukunft Ihres Unternehmens? Wir interessieren uns für die Vision, die Sie als Unternehmer emotional antreibt und begeistert.

V-1 Haben Sie eine Vision für Ihr Unternehmen?



Wenn die Antwort "ja" ist:

V-2 Liegt Ihre Vision schriftlich vor?



Wenn die Vision schriftlich vorliegt:

V-2a Können Sie uns bitte eine Kopie Ihrer Vision zur Verfügung stellen?



Wenn die Vision nicht schriftlich vorliegt:

V-2b Können Sie Ihre Vision bitte aufschreiben?

English Rating Scheme

v-1	Do you have a vision for your business?	
	1 no	2 yes

v-2	Is your vision written or unwritten?	
	1 unwritten	2 written

v-clear	clear	1 very incomprehensible	2	3	4	5	6	7	8	9	10 very comprehensible	comprehensible: easily understandable for employees, they know immediately what the vision is about
v-chall	challenging	1 very easy to achieve	2	3	4	5	6	7	8	9	10 very hard to achieve	hard: very hard to achieve given the current situation of the business, many resources are needed
v-fut	future-oriented	1 strong orientation toward the presence	2	3	4	5	6	7	8	9	10 strong orientation toward the future	oriented toward the future: refers to a long period of time or describes a state in the future oriented toward the presence: refers to a short period of time or describes a state in the present
v-stable	stable	1 very unstable	2	3	4	5	6	7	8	9	10 very stable	stable: the vision does not change even if the environment changes, owner has had the vision for a long time and/or will keep it for a long time
v-growth	growth-oriented	1	2	3	4	5	6	7	8	9	10	high: strong reference to growth in profits, sales, employment, facilities, market shares, or product offerings
v-socres	socially responsible	1 no concern about well-being of others	2	3	4	5	6	7	8	9	10 great concern about well-being of others	high: great concern about well-being of others (higher values, the greater the concern about others; higher values, the more distant and the less beneficial these others are to the owner)

Chinese Rating Scheme

v-1	你对企业有没有一个愿景？	
	1 无	2 有

v-2	你是否有书面愿景？	
	1 无	2 有

v-clear	清晰程度	1 非常难以理解	2	3	4	5	6	7	8	9	10 非常容易理解
v-chall	挑战程度	1 非常容易实现	2	3	4	5	6	7	8	9	10 非常不易实现
v-fut	未来导向	1 有强烈的眼前导向	2	3	4	5	6	7	8	9	10 有强烈的未来导向
v-stable	稳定程度	1 非常不稳定	2	3	4	5	6	7	8	9	10 非常稳定
v-growth	成长印象	1 没有提到利润、销售额、员工、设备、市场份额、或产品供应方面的成长。	2	3	4	5	6	7	8	9	10 总是提到利润、销售额、员工、设备、市场份额或产品供应方面的成长。
v-socres	社会责任	1 不关心他人幸福。	2	3	4	5	6	7	8	9	10 非常关心他人幸福。

German Rating Scheme

v-1	Haben Sie eine Vision für Ihr Unternehmen?									
	1 nein	2 ja								

v-2	Liegt Ihre Vision schriftlich vor?									
	1 nicht schriftlich	2 schriftlich								

v-clear	klar	1 sehr unverständlich	2	3	4	5	6	7	8	9	10 sehr verständlich	<u>verständlich</u> : für Mitarbeiter leicht nachvollziehbar, sie wissen sofort, worum es geht
v-chall	anspruchsvoll	1 sehr leicht zu erreichen	2	3	4	5	6	7	8	9	10 sehr schwer zu erreichen	<u>schwer</u> : für das Unternehmen in gegenwärtiger Situation sehr schwer zu erreichen, viele Ressourcen erforderlich
v-fut	zukunfts-orientiert	1 starke Gegenwartsorientierung	2	3	4	5	6	7	8	9	10 starke Zukunftsorientierung	<u>zukunftsorientiert</u> : bezieht sich auf einen langen Zeitraum oder beschreibt einen in der Zukunft liegenden Zustand <u>gegenwartsorientiert</u> : bezieht sich auf einen kurzen Zeitraum oder beschreibt einen in der Gegenwart liegenden Zustand
v-stable	stabil	1 sehr unbeständig	2	3	4	5	6	7	8	9	10 sehr beständig	<u>beständig</u> : unabhängig von Veränderungen in der Umwelt, der Unternehmer hat die Vision schon länger und/oder wird sie noch länger haben
v-growth	wachstums-orientiert	1	2	3	4	5	6	7	8	9	10	<u>hoch</u> : starke Bezugnahme auf Wachstum von Gewinnen, Umsätzen, Einstellungen, Einrichtungen, Marktanteilen oder Produktangeboten
v-socres	sozial verantwortungsvoll	1 keine Sorge um das Wohlergehen anderer	2	3	4	5	6	7	8	9	10 große Sorge um das Wohlergehen anderer	<u>hoch</u> : große Sorge um Wohlergehen anderer (höhere Werte, je größer die Sorge um andere; höhere Werte, je weniger nah diese anderen dem Unternehmer stehen und je weniger Nutzen er von ihnen hat)

Intraclass Coefficients

	China	Germany	China - Germany
	T1	T1	T1
v-1	1.00	1.00	1.00
v-2	1.00	1.00	1.00
v-clear	.84	.90	.87
v-chall	.80	.89	.85
v-fut	.87	.87	.92
v-stable	.80	.83	.74
v-growth	.94	.97	.95
v-socres	.97	.96	.96

Erklärung

Ich erkläre: Ich habe die vorgelegte Dissertation selbständig und nur mit den Hilfen angefertigt, die ich in der Dissertation angegeben habe. Alle Textstellen, die wörtlich oder sinngemäß aus veröffentlichten oder nicht veröffentlichten Schriften entnommen sind, und alle Angaben, die auf mündlichen Auskünften beruhen, sind als solche kenntlich gemacht.

Gießen, den _____

Christine König