



LUDWIG-
MAXIMILIANS-
UNIVERSITÄT
MÜNCHEN

WIRTSCHAFTS- UND ORGANISATIONSPSYCHOLOGIE
ECONOMIC AND ORGANISATIONAL PSYCHOLOGY
CHAIR: PROF. DR. FELIX BRODBECK



WOP Working Paper
No. 2003 / 1

**Societal Culture and Industrial Sector Influences
on Organizational Culture**

Felix C. Brodbeck

Ludwig-Maximilians-Universität, München, Germany

Paul J. Hanges

University of Maryland, Baltimore, MD, USA

Marcus W. Dickson

Wayne State University, Detroit, MI, USA

Vipin Gupta

Fordham University, Bronx, NY, USA

Peter W. Dorfman

New Mexico State University, Las Cruces, NM, USA

Reference / a later version of this paper was published in:

Brodbeck, F. C., Hanges, P. J., Dickson, M. W., Gupta, V., & Dorfman, P. W. (2004). Comparative influence of industry and societal culture on organizational cultural practices. In R. J. House, P. J. Hanges, M. Javidan, P. Dorfman, & V. Gupta (Eds.), *Leadership, culture, and organizations: The GLOBE study of 62 societies* (pp. 654-668). Thousand Oaks, CA: Sage Publications, Inc.

Authors Note

Correspondence concerning this article should be addressed to Felix C. Brodbeck, Department Psychologie, Ludwig-Maximilians-Universität München, Leopoldstr. 13, 80802 München, Germany.
E-mail: brodbeck@lmu.de

A major premise of the GLOBE study is that organizational cultural practices are influenced by factors external to the organization itself. As indicated in the GLOBE conceptual model, societal cultural practices and values are believed to affect the practices enacted as well as the values held in organizations embedded within these societies. For example, societal differences in power distance may predict the type of consultant-client relationship preferred in those societies (e.g., directive versus collaborative). As discussed in Chapter 5 by Dickson, BeShears, and Gupta, there is a substantial body of literature supporting the influence of societal culture on organizational characteristics.

In addition to societal culture, however, the GLOBE conceptual model also indicates that a variety of other contextual factors influence organizational cultural practices and values. A myriad of factors affect the creation and evolution of organizational cultures such as the presence or absence of competitors, local, regional, national, and global economic conditions, and of course the basic nature of the business. It is the importance of the basic nature of the business or industry that is examined in this chapter in addition to societal culture effects. Many authors have argued that the industrial sector an organization belongs to and the common kinds of pressures encountered by organizations, such as the rate of technological change and the general level of environmental turbulence, affect organizational cultural practices and values (e.g., Chatman & Jehn, 1994; Gordon, 1991; Phillips, 1994).

We believe that a major contribution of project GLOBE concerns the previously unexamined combined influence of societal culture and industry on organizational practices. That is, beyond direct effects of societal culture and/or industry on organizational culture, Dickson et al. have argued in Chapter 5 that the broader societal culture interacts with the direct effect of industry on organizational culture. Following this logic of societal culture having both a direct and an interaction effect, it is reasonable to expect that the effect of industry level differences may be

enhanced or decreased by a) general characteristics in the society such as the extent to which the societal culture is turbulent and undergoing stable or rapid transformation and b) the presence and enactment of certain societal level *practices*, such as government regulations and the national economic system, or the kinds of cultural *values* espoused in a society.

The purpose of the present chapter is to test the logic specified in Dickson et al's chapter by exploring the extent to which there are unique and interactive effects of societal cultures and industry sector differences on organizational cultural practices and values. Six mechanisms were identified in chapter 6: cultural immersion theory, resource dependency theory, within-organization dependency theory, institutional theory, social networks theory, and social systems theory. These mechanisms theoretically explain how societal culture and industrial sector differences might affect organizational cultural practices and values. Project GLOBE, however, was not designed to specifically assess the viability of each of these mediating mechanisms independently. While it would be useful to do so in future research endeavors, we simply use these six mechanisms as justification to examine the influence of societal culture, industry type, and the interaction of both on organizational culture.

As described in Chapter 8 by Hanges and Dickson, we developed separate cultural practices and cultural values scales at both the organizational and societal level of analysis. We sampled multiple middle managers from organizations. The middle managers were randomly assigned and asked to complete one of two versions of the GLOBE survey. While both versions asked about effective leadership characteristics and behaviors, only Form A asked about organizational cultural practices and values and only Form B asked about societal cultural practices and values¹. Multiple organizations from one of three different industries (Finance, Food processing, Telecommunications) were sampled and at least two of the three industries from the 62 different cultures were collected. Given the range of societal cultures represented in the GLOBE sample and

the range of environmental pressures encountered by organizations in the three different industries sampled in GLOBE, we believe that these data provide an opportunity to assess the unique and joint effects of societal and industry sector differences on organizational cultural practices.

In the next section, we will discuss the rationale for choosing the three specific industries sampled in GLOBE. In particular, we will discuss the range of environmental pressures experienced by organizations in these different industries to indicate why we expect sufficient variation in these types of industries to expect an effect on organizational cultural practices.

Industry Sectors and Organizational Cultural Practices

The GLOBE data were sampled from the telecommunications, food processing, and financial services industrial sectors. We selected these three industries because we believed that they were present in most, if not all, countries in the world; and because we believed that these industries systematically differed from one another. In this section, we provide brief descriptions of these industrial sectors. We obtained this information by reviewing electronic databases such as the Standard and Poor's industry surveys or the Economic Intelligence Unit's industry reports.

The telecommunication industrial sector is relatively new compared to the financial and food services industrial sectors. While the telecommunication industrial sector initially embraced bureaucratic cultural practices and values, major transformations of this industrial sector started in the 1980s. For example, the British Telecommunication company was privatized during this decade and the ATT monopoly was broken up in the United States. The telecommunication industrial sector was among the fastest growing sectors in the 1990s.

The food processing industry, in contrast, is one of the oldest industrial sectors. This sector is currently facing new market challenges, such as customer preferences for fresher, organic, ready-to-eat, and ecologically friendly food. The processed food industry is among the least sensitive to the general economic turbulence. Though people often tend to shift their consumption patterns in

times of economic downturn, overall demand appears to be stable in this industry. In fact, the processed food sector is frequently considered a safe haven for global investors in times of slower economic growth.

Finally, with regard to the financial services industry, the dismantling of regulatory barriers separating banking, insurance, and securities segments has facilitated development of a global capital market. Over the years, commercial paper and corporate bonds have substituted bank loans, while mutual funds and securities have replaced some bank deposits. There has also been competition from outside each industry. While automotive and aerospace firms have had their own financial service subsidiaries for a long time, as have the retailers and several consumer electronic firms offering credit facilities, telecommunication and utility firms have also begun offering payment and other services through their distribution networks and customer relationships. The result is growth of financial service companies that offer a whole range of services, combining financial services production with distribution networks and brand names (Clasessens, Glaessner, & Klingebiel, 2000).

The financial services firms are intermediaries, who seek to profit from exposing themselves to risks and not matching assets and liabilities on one to one basis. The financial services industry therefore is quite sensitive to the economic fluctuations. Demand for these services tend to peak during the early phases of economic upturn, when interest rates are low. As economic growth proceeds, organizations that fall outside of the financial services sector tend to provide sources of financing to consumers, thereby decreasing demand for the services of traditional financial services industry organizations. Consequently, there is much emphasis on international diversification of portfolios, which makes the industry more sensitive to economic crises in any part of the world, and less sensitive to the societal factors.

In summary, there are differences in the environments experienced by these three industries. The food services industry experiences a more stable environment, the telecommunications industry experiences a more turbulent environment since the 1980s, and the financial services industry being quite sensitive to environmental pressures. Indeed, consistent with this perspective, Harvey (2001) has examined the volatility of these three industries worldwide. He found that the global financial services industrial sector is the most volatile of our three industries. The food services industrial sector has been relatively stable for a long time. Finally, Harvey has documented that the telecommunications industry experienced a dramatic change worldwide after the 1980s. As documented by Harvey's research, these three industries have experienced different environments over their histories and the organizational cultural practices seen in these industries probably differ as a result.

Hypotheses

We propose and test three potential relationships between industrial sectors and societal cultures. The first hypothesis is concerned with the effects of societal culture on organizational culture. The simple fact that most people live the majority of their lives within a single culture makes it highly likely that the normative prescriptions and behavioral expectations of that culture would be reflected in the organizations in which they function. Given that there is a long tradition in the management literature to view organizations as "open systems influenced by the environment" (Katz & Kahn, 1966; Lee & Barnett, 1997, p.398), societal culture should be a major source of influence on organizational systems. Further, the founder of an organization, along with other influential organizational leaders, probably have a major influence on the practices, policies, and culture of an organization (Schneider, 1987; Schneider, Goldstein, & Smith, 1995). It is likely that these leaders try to develop organizational practices and policies that appear to be sensible and strategic for their organization.

While there is variation in the extent to which any given individual shares a society's cultural values and beliefs, cultural immersion theory as well as cognitive researchers (e.g., Hanges, Lord, & Dickson, 2000) have argued that societal culture influences the beliefs of individuals regarding what is sensible or strategic within a particular society. Values of founders and other organizational leaders are thus differentially influenced by the larger society's values, and these founders and leaders have differential effects on the organizations they create and lead. Thus, an effect of a value at the societal level to the analogous value at the organizational level is mediated by the values of founders. Resource dependency theory and institutional theory also suggest that coercive isomorphism (based on political and legal pressures), mimetic isomorphism (based on modeling other successful organizations), and normative isomorphism (based on rules and norms) all operate to influence organizations through the society in which they are embedded. Based on this discussion, we suggest the following hypothesis:

Hypothesis 1: Societal culture will have a significant affect on organizational cultural practices.

The second hypothesis is concerned with a common industry sector effect on organizational cultural practices. There is evidence that organizational practices respond to the industry-related contextual contingencies. For example, Kerr, Dunlop, Harbison, and Charles (1960) and Hickson, Hinings, McMillan, and Schwitter (1974) indicate that technology and machines directly influence how people perform their work, regardless of nationality, and constrain organization design choices. In addition, several theoretical mechanisms suggest that industry might have a direct effect on organizational culture. Resource dependency theory, for example, suggests that organizations attempt to control the resources that are necessary to them (Pfeffer, 1981; Pfeffer & Salancik, 1978). The commonality of the perception of necessary resources by organizational leaders in the same industry probably reduces the range of practices in these organizations as these leaders

attempt to maintain their organization's technological and operational efficiency as well as achieve social legitimacy for their organization (Abernathy & Chua, 1996). Further, institutional theory considers the larger institutional environment which consists of the elaboration of rules, practices, symbols, beliefs, and normative requirements to which individual organizations must conform to receive support and legitimacy (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). In an attempt to achieve legitimacy and support, institutional theory suggests that organizations mimic other organizations in their industry (DiMaggio & Powell, 1983). Finally, so called "value added networks" within industries link organizations into collectives. Such collectives tend to increase the similarity of member organizations strategic profiles (Abrahamson & Fombrun, 1994), and thus, foster the development of industry specific inter-organizational macro-cultures, such as beliefs that are shared by managers across organizations. An industrial culture, therefore, emerges because of the similarity in practices by organizations within a given industry. Given this review, we advance the following hypothesis:

Hypothesis 2: Industrial sector differences will have a significant main effect on organizational culture.

The third, and final, hypothesis is concerned with a society by industry interaction. There is sufficient evidence to indicate that industrial sector effects are often mediated and shaped by societal cultures. For instance, the regulatory environment tends to differ across societies, as is the case with financial services as well as telecommunications industry. Empirical evidence of this interaction was provided in a study by Mason and Finegold (1997). These authors compared the organizational practices of eight biscuit manufacturing factories in Germany and the US. After controlling for size of plant, the productivity of these factories were equivalent even though the organizations in Germany appeared to be characterized as adopting socio-technical systems principles whereas in the US, the factories were using practices based on scientific management

principles. The German workers, who were vocationally qualified and experienced, underwent extensive on-the-job training, and were given responsibility for multiple baking operations within semi-autonomous three person teams. In contrast, the US firms employed standardized production procedures that were supported by a greater use of automated and/or dedicated production equipment. The contrast between both systems is clear; the American experts relied on work principles consistent with scientific management, and the Germans on work principles consistent with socio-technical systems.

In addition to this empirical study, there are several theoretical mechanisms that suggest that a society by industry interaction would occur. For example, in Chapter 6 Dickson et al posit that coercive isomorphism (i.e., formal and informal pressure exerted by other organizations) as well as mimetic isomorphism (i.e., organizations deliberately model themselves after other organizations in their sector) probably cause these interactions. Clearly, simple imitation of industry-wide practices is not competitively advantageous for any organization existing within a particular society. The administrative heritage of the society plays an important role in the design of any organization (Bartlett & Ghoshal, 1990). Thus, we have the following third hypothesis:

Hypothesis 3: There is a significant industry sector by societal culture interaction effect on organizational culture.

Method

The GLOBE Dimensions of Cultural Practices and Cultural Values

As indicated in Chapter 8 by Hanges and Dickson, the GLOBE scales measured manifestations of culture. One manifestation dealt with the more tangible aspects of culture, namely societal and organizational practices whereas the other manifestation dealt with the more intangible aspects, namely societal and organizational values. Our analyses focus on the more tangible aspects of culture – which we label cultural *practices*. A total of nine different dimensions were measured

at both the societal and organizational levels of analysis. These scales were designed such that the societal and organizational cultural scales were isomorphic in that they measured the same dimensions at each level of analysis.

All of the hypotheses advanced in this chapter were tested using the GLOBE organizational cultural *practices* scales as the dependent variable. Specifically, the following nine GLOBE organizational cultural practice scales were used: (1) Uncertainty Avoidance, (2) Power Distance, (3) Collectivism I: Societal Emphasis on Collectivism, (4) Collectivism II: Family Collectivistic Practices, (5) Gender Egalitarianism, (6) Assertiveness, (7) Future Orientation, (8) Performance Orientation, and (9) Humane Orientation.

Sample and Procedures

An adequate sample of respondents within each organization is required to test the three aforementioned hypotheses. A reliable sample of the organizational data can be achieved when the following three criteria are applied. First, organizational level data contains responses from a minimum of 7 respondents per organization. This criterion was used throughout the project to maintain the high reliability and consistency values for the GLOBE organizational culture scales. Second, data sets with less than two organizations per industry per country are excluded. This criterion helped us separate variance due to organizational differences from industry level effects. Third, data sets from countries with only one industry sampled are also excluded. This last criterion enabled us to separate variance due to society from variance due to industry. After applying these three criteria, the final data set for this analysis consisted of 3,859 mid-level managers from 208 organizations within 27 societies and 3 industries. There were 92 Financial organizations, 73 organizations from the Food industry, and 43 organizations from the Telecommunications industry (see Table 1). The average number of respondents per organization was 18.6 (SD = 18.1, with a minimum of 7 and a maximum of 148). All organizations were middle to large sized companies

operating mainly within their respective society. Multinational organizations were not included in the GLOBE database to ensure that the respondents represented their culture and not other cultures. More details about the GLOBE sample and procedures for data gathering are described in Chapter 6 by House, Hanges, and Dorfman.

Analysis

We used a variety of analyses and statistical packages to perform our analyses. In particular, we initially conducted an analysis of variance (ANOVA) model to estimate the amount of variance operating at each level of analysis (i.e., society, industry, and society by industry) on the GLOBE organizational cultural practices scales. We also used this analysis to assess whether societal differences (Hypothesis 1) had significant main effects on organizational cultural practices. While the results of these ANOVAs were informative, we primarily relied on a series of hierarchical linear modeling (HLM) analyses to formally test our hypotheses concerning the main effect of industry differences (Hypothesis 2) as well as industry by society interactions (Hypothesis 3) on each of the nine GLOBE organizational cultural practice scales. A detailed description of HLM analyses of GLOBE data is presented in Chapter 11 by Hanges, Dickson, and Sipe.

Finally, we also conducted exploratory analyses to further explain the results for hypotheses 1 to 3. We did this by using societal cultural *values* as factors that may explain the society by industry interaction on GLOBE organizational *practices*. These exploratory analyses are described in more detail in the respective results sections.

Results

Societal Effects on Organizational Culture

Our first hypothesis concerned whether society-level differences affect organizational cultural practices. We tested the significance of society level differences by conducting ANOVAs on each GLOBE organizational cultural practices scale. By employing a hierarchical ANOVA

analysis, we treated organizations as nested within societies and individuals nested within organizations. As shown in Table 2, we found that societal cultural differences (*practices*) had a significant effect on all nine organizational cultural practice dimensions. When considering variance for each dependent variable (e.g., GLOBE Power Distance organizational practices scale) that occurs only at the organizational level ($\eta^2_{(org)}$ in Table 2), societal differences accounted for 31 to 71 percent of this variance. Consistent with Hypothesis 1 and the original GLOBE conceptual model, societal level differences have a substantial impact on the cultural practices of organizations. The relationship between societal and organizational practices is described further in each of the culture dimension chapters (Chapters XII to XIX).

Industry Effects on Organizational Culture

We examined the significance of the industry sector in the first HLM model to assess whether there was a main effect of industry on organizational cultural practices.¹ As shown in Table 2, only one organizational cultural practice dimension showed a significant main effect for industry (Gender Egalitarianism scale, $p < .05$). This main effect is a result of organizational gender egalitarianism cultural practices being less pronounced (i.e. more masculine dominated) in the telecommunications industry (mean = 2.55) than in either the financial industry (i.e., mean = 3.34) or the food industry (i.e., mean = 3.36). The industry main effect for organizational gender egalitarianism cultural practices accounted for 14 percent of the organizational level variance.

Overall, however, with the exception of the results for gender egalitarianism, our results did not support Hypothesis 2. As can be seen in Table 2, the industry effect on organizational culture ranged from 0 to 14 percent of the dependent variableⁱⁱ.

¹ See Chapter 11 for an explanation of HLMs.

Society by Industry Interaction Effects on Organizational Culture

While we found little support for a main isomorphic effect due to industry sector, it is possible that industry sector interacts with some other variable to affect organizational cultural practices. As discussed previously, the effect of industry differences might interact with broader societal culture variables.

Our results show that industry type interacted with societal culture on four cultural dimensions. As shown in Table 2, there was a significant industry by society interaction for the GLOBE organizational culture practices scales of Uncertainty Avoidance, Power Distance, Assertiveness, and Gender Egalitarianism. The percent of variance accounted for by these industry-society interactions is shown in Table 2. For the four aforementioned cultural practice scales, the amount of dependent variable variance explained by these interactions ranged from 31 to 40 percent. Overall, these results partially support Hypothesis 3. Industry interacted with societal level variables to affect four of the nine organizational cultural practices.

Interpreting Industry by Society Interactions on Organizational Cultural Practices

So far in this chapter we have concerned ourselves with the influence of society cultural practices and type of industry on organizational practices. However, as noted in Chapter 6 by Dickson et al., several societal **cultural values** may account for the interactive effects of society by industry practices on organizational practices. Therefore, in this section we describe additional analyses, but this time using cultural values instead of cultural practices as major explanatory mechanisms. We assessed whether it might be possible that the society level Uncertainty Avoidance cultural *values* or society level Collectivism cultural *values* account for the society by industry interaction effects on organizational *practices*. As discussed in Chapter 6, these two value dimensions were identified as most critical shapers of organizational practices. In Chapter 10 describing unobtrusive measures of culture, Gupta, de Luque and House suggest that the GLOBE

Uncertainty Avoidance cultural practice scale is strongly related to the use of technology, with greater information, communication, transportation, safety and health technology, indicating investments in security, comfort, and resolution of uncertainty. As noted in the hypothesis section, the use of technology is one of the major factors in cross-cultural similarities. Further, collectivism shapes the degree to which a society tends to be traditional. As seen in the history of Japan, Korea, and China, collective societies tend to limit the freedom of firms, such as through industrial regulation, if it is believed that such freedom could destabilize the social order. In addition, as a completely exploratory analysis, we used each societal cultural dimension *value* that was isomorphic (the same as) with the organizational practice dependent variable in the statistical analyses. This procedure would provide evidence to determine if isomorphic societal cultural *values* can explain the findings beyond the values of uncertainty avoidance and collectivism.

We expected that the societal level Uncertainty Avoidance or societal level Collectivism cultural values would interact with type of industry to affect organizational cultural practices. Further, if the Uncertainty Avoidance and Collectivism *values* failed to account for the interaction effects, we expected that each organizational culture *practice* would be influenced by its isomorphic societal culture *value*. Thus, for example, societal level Power Distance culture *values* might interact with type of industry to affect organizational Power Distance *practices*.

Uncertainty avoidance influence on interaction.

For two of the organizational cultural practice dimensions (i.e., Power Distance and Uncertainty Avoidance), our results indicated that societal level Uncertainty Avoidance cultural values completely captured the previously obtained industry by society interaction. Figure 1 shows the society by industry interaction for the organizational Power Distance cultural practices dependent variable. As can be seen in this figure, while higher Power Distances practices are associated with higher Uncertainty Avoidance values, this is particularly true with respect to the

telecommunication and food industries, but not with the finance industries. That is, respondents in both food and telecommunications organizations that were in societies with higher Uncertainty Avoidance values tended to report higher levels of organizational Power Distance cultural practices than respondents in food and telecommunications organizations in societies with lower Uncertainty Avoidance values. Respondents in the finance industry, on the other hand, indicated that organizational Power Distance cultural practices were insensitive to the extent to which a society value is reported to be Uncertainty Avoidance. Our explanation for this finding concerns the rules and regulations based nature of the financial industry. This explanation will be presented shortly.

Figure 2 shows the society and industry interaction for the organizational Uncertainty Avoidance cultural practices. For this dependent variable, organizational level practices were sensitive to societal level values. The interaction comes about because some industries appear to be more sensitive to societal values than others. In particular, the organizational Uncertainty Avoidance cultural practices of the telecommunication industry appeared to be the most sensitive to the Uncertainty Avoidance values of the broader society. The organizational Uncertainty Avoidance cultural practices appear for the financial industry to be the least sensitive to the Uncertainty Avoidance values of the broader society. Once again this might be due to the rules and regulation based nature of the financial industrial sector along with the shift in the nature of the telecommunications industrial sector that started in the 1980s.

Isomorphic scale influence on interaction

For the organizational Gender Egalitarianism cultural *practices* and the organizational Assertiveness cultural *practices*, the societal cultural *values* that are isomorphic to the organizational cultural *practices* appear to be useful in providing a partial understanding of the society by industry interaction. Figure 3 shows the interaction between societal Assertiveness cultural values and industry on organizational Assertiveness cultural practices. Once again, the

organizational cultural practices of the financial industry appear to be insensitive to societal Assertiveness cultural values. However, the organizational Assertiveness cultural practices of the telecommunication industry appear to be the most reflective of the broader societal values for Assertiveness.

Figure 4 shows the interaction between societal Gender Egalitarianism cultural values and industry on organizational Gender Egalitarianism cultural practices. While the Gender Egalitarianism organizational *practices* of the financial industry are once again insensitive to the broader societal *value* for Gender Egalitarianism, the organizational practices of both the food and financial industry are affected by the broader societal values.

In summary, we obtained some support for our “cultural value” interpretation that lies behind the interaction between industry and societal effects as it affects organizational practices. Taken together, the organizational practices of the financial industrial sector were insensitive to the values in the broader society whereas the practices of the food and telecommunication industrial sectors were affected by these broader values, and these values accounted for the significant industry by society interactions. It is possible that the presence of global rules and regulations in the financial industrial sector are responsible for these results. Universal rules and regulations that are strictly adhered to are required to facilitate the exchange of information and funds across borders. These rules, in turn, probably make the financial industrial sector less malleable to domestic culture. In fact, the main purpose for implementing global rules in the financial sector is to insulate these institutions from local culture and thereby standardize banking practices across cultures.

Discussion

Our findings can be summarized succinctly. First, organizational cultural practices differ among the societal cultures investigated regardless of industrial sector. This means that societal

culture is an important influence on organizational culture *practices* irrespective of industry. Several organizational cultural *practices* were strongly affected by societal cultural *practices*. The organizational culture practices of Uncertainty Avoidance, Assertiveness and Gender Egalitarianism were particularly impacted. Second, we found almost no industry sector effects on organizational practices across societies. While this may appear surprising given the literature suggesting likely industry effects, it is explained by the third major finding regarding the interaction of societies and industries. For our sample of industries, we did find society specific differences in the organizational practices of the three industries.

The few and weak industry effects on organizational culture across societies strongly suggests that the major force shaping organizational practices is rooted in societal level systems rather than industry-specific work systems. Other explanations for the weak relationship between industry sector and organizational practices are likely. For example, the reader should remain cognizant, however, that another interpretation for the lack of direct industry effects may simply lie in the initial design of project GLOBE. While some CCIs measured secondary variables descriptive of organizations such as technological sophistication, competitive pressures, growth stage of the industry for a few organizations, the scope and demands of Project GLOBE research design prevented more systematic gathering of this additional information. Without this information, we cannot rule out the possibility that the organizations included in the present study might have systematically differed on these secondary variables. The inability to rule out this possible explanation may limit our findings regarding the main effect of industry on organizational practices. We did, however, find several society by industry interactions (moderate to high in effect size), for half of the organizational culture dimensions investigated. This interaction supports the paramount role of societal cultural variables as influencing organizational practices, either directly or indirectly.

Nevertheless, we found evidence that indirect effects of society on organizational culture *practices* are influenced by cultural values and may mediate differences between industries within countries. Two of the four society by industry interaction effects on organizational cultural practice dimensions (on Power Distance and on Uncertainty Avoidance) were explained by societal uncertainty avoidance *cultural values*. This variable completely captures the two industry by society interactions. In other words, issues of how to deal with uncertainty play a central role in determining differences between industries within societies. In societies with high scores on the GLOBE Uncertainty Avoidance scale, respondents in both food and telecommunications organizations tended to report higher levels of organizational power distance cultural practices than respondents from these industries in societies with lower scores on the GLOBE Uncertainty Avoidance scale. Furthermore, most sensitive to the uncertainty avoidance values of the broader society appeared to be the organizational uncertainty avoidance cultural practices of the telecommunication industry. Whereas the financial industry's organizational uncertainty avoidance cultural practices appeared to be the least sensitive to the uncertainty avoidance norms of the broader society.

Interestingly, in the finance industry, as compared to respondents in food or telecommunication, organizational power distance and uncertainty avoidance cultural practices were insensitive to the extent of the societal level cultural values regarding uncertainty avoidance (see Figures 1 and 2). Similar results were obtained for the societal level assertiveness scales and gender egalitarianism scales on the organizational level assertiveness and gender egalitarianism practices respectively (see Figures 3 and 4). These findings suggest that the more globally oriented an industry is (finance being more global than food and telecommunications at the time of data gathering) the less sensitive should this industry's organizations' cultures be to the influence of societal culture. Note that multinational organizations were deliberately excluded as much as

possible from the GLOBE sample. Thus, even though we sampled organizations in the finance industry that operate mainly within their national markets their organizational culture practices seem to reflect a more global industrial culture. At the same time, the fact that societal culture influences are strong and significant suggests that the organizational practices in even the most global industries (such as financial services at the time of data gathering) tend to be rooted in their societal cultures.

Before concluding this chapter, we would like to return to a point mentioned in the first part of this section regarding our lack of findings for a simple (i.e., main effect) of industry on organizational practices. The reason for not finding even more explanatory societal culture variables to account for the industry by society interactions on organizational culture found here could be due to third variables' effects that were not investigated within the GLOBE program. There is considerable variability among common characteristics for distinguishing industries within societies, such as technology, growth rate, governmental regulations, national economic systems, societal traditional strength of labor unions, or status of an organization as a national monopoly.

The effects of such differences on industry characteristics and on organizational culture have been demonstrated in empirical studies that were conducted in *singular* societies (e.g., Chatman & Jehn, 1994; Dansereau & Alutto, 1990; Phillips, 1991). To our knowledge no study has been published that investigates the influence of such industry characteristics on organizational culture practices with a country sample similar in size to ours. It may be that the three industries' profiles vary considerably across societies depending on the degree of modernization, economical growth, GNP, or more generally on the political and economical systems. For an example, differences in product market concentration between Food, Finance and Telecommunication may be a consequence of differences between societies. At the time of data gathering for GLOBE (1996 to 1999), in some societies (e.g., USA), Finance, Food and Telecommunication industries all consisted

of privately owned companies with a high number and variability of competitors. In other societies (e.g., Germany, Austria), the Telecommunication industry was dominated by one state monopolist, private companies were entering the very recently opened market, whereas Finance and Food were always fully private. Thus, aspects in organizational culture that relate to product market concentration should be more different between Telecommunication and the other two industries within Germany than within the USA. Similar interaction effects are to be expected for other industry characteristics, for example, differential customer demands between industries, as documented in the change from reliability to novelty for the AT&T monopolist in Telecommunication in the U.S. Similarly, different societal expectations, for example, the preeminence of property rights versus human rights like safety and health issues, should have profound effects on the chemical, food and cigarette industries, not so on the Finance and Telecommunications industries. These and similar social changes have taken place in most western modernized societies, are currently taking place in others and have not yet begun in many other societies. Because the GLOBE sample comprises countries from all major regions of the world, it is to be expected that there are manifold industry characteristics that may interact with an array of societal cultural variables. In this respect the GLOBE database warrants further research, e.g., for particular sets of countries and industries that differ meaningfully in the above-mentioned characteristics, particular hypotheses about societal culture by industry interactions can be investigated.

Another explanation for the lack of industrial sector effects might be due to the organizational cultural practice dimensions studied in Project GLOBE. That is, we deliberately developed organizational cultural practice scales that were isomorphic to our societal cultural practice dimensions. This decision probably influenced the size of the relationships we found between organizational and societal practices. Clearly, it is reasonable to expect that organizations

reflect the societies in which they are embedded. We did not create or measure organizational variables that are likely to be particularly salient to organizational members from one industrial sector over the others. For instance, the food services industrial sector might be less concerned with innovation of services compared to organizations in the financial or telecommunication sectors. Stronger support for an industrial sector main effect might have been obtained if the organizational cultural practices scales focused on the practices that were important for distinguishing one industrial sector from another.

Comparing Effect Sizes: Society, Industry and Society by Industry Interactions

Although not part of any formal hypothesis, we initially thought about the relative influence of the three effects specified in our three hypotheses—societal culture, industry culture, and the interaction between the two. Which should be most important and which least important? Thus, across a multi-nations multi-industry sample of organizations such as the GLOBE sample, we expect society main effects on organizational culture across all industries to be stronger than industry main effects across all societies. Furthermore, as adaptation to industrial conditions tends to be contingent on society factors, as was demonstrated in the study of biscuit manufacturing factories in Germany and the US (Mason & Finegold, 1997) described at the beginning of this chapter, one might also expect stronger society by industry interaction effects than industry effects alone across societies.

The interaction effect, however, is not likely to overpower the pervasive effect of societal culture. Unfortunately, significance tests of the magnitude of the explained variance for variables at these different levels of analysis are not available. However, we can examine the average amount of variance accounted for by each main effect, and the interaction effects, to assess whether these magnitudes were consistent with our hypotheses.

Thus, we predicted that the strongest influence on organizational practices would be societal differences, followed by the industry by society interactions, and then the main effect due to industry. While we could not formally test this assertion, results reported in Table 2 provide indirect support. Specifically, the level of organizational level variance (for all nine scales together) accounted for by society was 49 percent (9 percent of explained total variance within and between organizations) followed by 29 percent organizational level variance for the industry by society interaction (4 percent of explained total variance within and between organizations), and 4 percent organizational level variance for the industry main effect (1 percent of explained total variance within and between organizations). Therefore, the results are consistent with our predictions regarding relative effect sizes.

5. Conclusion

The GLOBE results presented here, unique in its broad coverage of societies from all regions in the world, support the notion that societal culture has the most significant and strongest effects on all organizational culture dimensions measured, whereas industry only weakly influences some of the measured aspects of organizational cultures across all societies. Within particular societies, differences between industries are influential on organizational culture practices only to the extent that the societal culture of a particular society differs from other societies (i.e. interaction of society and industry effects on organizational culture). This interaction effect is considerably stronger than the direct effect of industries on organizational culture across societies.

The strong society culture effects found in this chapter suggest that the organizational design and competitive advantage of firms tend to be strongly influenced by their domestic home base. This is particularly true for the organizations in culture-sensitive industries such as food processing, and for those in locally regulated industries such as telecommunication at the time of data gathering. For the firms in the financial services industry, which operates at a global scale, an isomorphic

adaptation of organizational culture to the societal culture may not be required to attain or maintain an effective competitive advantage. The financial market is among the most global markets of all. The better the fit between organizational cultural practices and the respective global market conditions, the more likely is an organization's survival and prosperity. Still, the firms need to be responsive to the societal context in the country in which they are based, as is indicated by strong society-effects for firms in all three sampled industries. Thus, there are more or less degrees of freedom for the alignment of an organization's cultural practices with societal cultural values and practices, depending on specific industry demands facing the organization under consideration.

References

*Abernathy & Chua, 1996, *** referenced in Chapter 6 Dickson et al.

Abrahamsen, E., & Fombrun, C. J. (1994). Macrocultures: Determinants and consequences.

Academy of Management Review, 19 (4), 728-755.

Bartlett, C.A. & Ghoshal S. (1990). *Managing Across Borders: The Transnational Solution*.

Boston: Harvard Business School Press.

Chatman, J. A., & Jehn, K. A. (1994). Assessing the relationships between industry characteristics and organizational culture: How different can you be? *Academy of Management Journal*, 37 (3), 522-553.

Clasessens S., Glaessner T., & Klingebiel D. (2000). Electronic Finance: Reshaping the Financial Landscape Around the World. Financial Sector Discussion Paper, The World Bank, Washington, D.C.

Dansereau, F., & Alutto, J. A. (1990). Level-of-analysis issues in climate and culture research. In B. Schneider (ed.), *Organizational Climate and Culture*, (pp. 193-236). San Francisco: Jossey Bass.

*DiMaggio & Powell, 1983; *** referenced in Chapter 6 Dickson et al.

Gordon, G. G. (1991). Industry determinants of organizational culture. *Academy of Management Review*, 16 (2), 396-415.

Hanges, P. J., Lord, R. G., & Dickson, M. W. (2000). An information processing perspective on leadership and culture: A case for connectionist architecture. *Applied Psychology: An International Review*, 49, 133-161.

Hickson, D.J., Hinings C. R., McMillan C.J., & Schwitter, J.P. (1974). The culture-free context of organizational structure. *Sociology*, 8, 59-80.

Katz, D., & Kahn, R. L. (1966). *The social psychology of organizations*. New York: John Wiley & Sons.

Kerr, C., Dunlop, J. T., Harbison, F. H., & Charles, A. M. (1960). *Industrialism and Industrial Man*. MA: Harvard University Press.

Kreft, I., & Leeuw, J. D. (1998). *Introducing multilevel modeling*. Thousand Oaks, CA: SAGE.

*Lee & Barnett, 1997, *** referenced in Chapter 6 Dickson et al.

*Meyer & Rowan, 1977. *** referenced in Chapter 6 Dickson et al.

Mason, G. & Finegold, D. (1997). Productivity, machinery and skills in the United States and Western Europe. *National Institute Economic Review*; London; October 1997.

*Pfeffer, 1981 *** referenced in Chapter 6 Dickson et al.

Pfeffer & Salancik, (1978). *The external control of organizations: A resource dependency perspective*. New York: Harper & Row.

Phillips, M. E. (1994). Industry-mindsets: Exploring the cultures of two macro-organizational settings. *Organization Science*, 5 (3), 384-402.

Schneider, B. (1987). The people make the place. *Personnel Psychology*, 14, 437-453.

*Schneider, Goldstein, & Smith (1995). *** referenced in Chapter 6 Dickson et al.

Figure Captures

Figure 1: Society and Industry Interaction on GLOBE Organizational Power Distance
Cultural Practices

Figure 2: Society and Industry Interaction on GLOBE Organizational Uncertainty
Avoidance Cultural Practices

Figure 3: Society and Industry Interaction on GLOBE Organizational Assertiveness Cultural
Practices

Figure 4: Society and Industry Interaction on GLOBE Organizational Gender Egalitarianism
Cultural Practices

Table 1. Sample of Organizations per Society and Industry

Society	Finance	Food	Telecom.	Total
Argentina	4	3		7
Australia	4		3	7
Brazil		5	4	9
Canada (engl.)	3		3	6
China	3	3		6
Egypt	3	5		8
England	4	2		6
Finland	3	2	2	7
Georgia	4		3	7
Germany (west)	4	4	2	10
Greece	4		3	7
Hungary	2	3		5
India	4	5		9
Italy	4	3		7
Netherland	3	3		6
Philliplines	3	3		6
Poland	2	2		4
Singapore	5	2		7
Slovenia	3	2	3	8
South Africa (tribal)	5	3		8
South Korea	3	3	3	9
Sweden	4	6	4	14
Switzerland		3	3	6
Taiwan	3		3	6
Thailand	5	5	5	15
Turkey	7	3		10
USA	3	3	2	8
Total	92	73	43	208

Table 2.

Results for Analyses of Variance with the GLOBE Organizational Culture Practices (“As is”) Scales as the Dependent Variable

Organizational Cultural Practices	Society		Industry		Society * Industry	
	Significant?	$\eta^2_{(org)}$	Significant?	$\eta^2_{(org)}$	Significant?	$\eta^2_{(org)}$
Collectivism 1	Yes	.44	No	.01	No	.23
Collectivism 2	Yes	.40	No	.02	No	.26
Future Orientation	Yes	.47	No	.05	No	.18
Humane Orient	Yes	.48	No	.00	No	.25
Performance Orient.	Yes	.31	No	.00	No	.23
Uncertainty Avoidance	Yes	.57	No	.06	Yes	.31
Power distance	Yes	.42	No	.02	Yes	.38
Assertiveness	Yes	.60	No	.03	Yes	.37
Gender Egalitarianism	Yes	.71	Yes	.14	Yes	.40

Note: η^2 is an estimator of the amount of variance in the dependent variable accounted for by a particular factor. The significance level used for these analyses was the traditional $p < .05$ level.

Figure 1

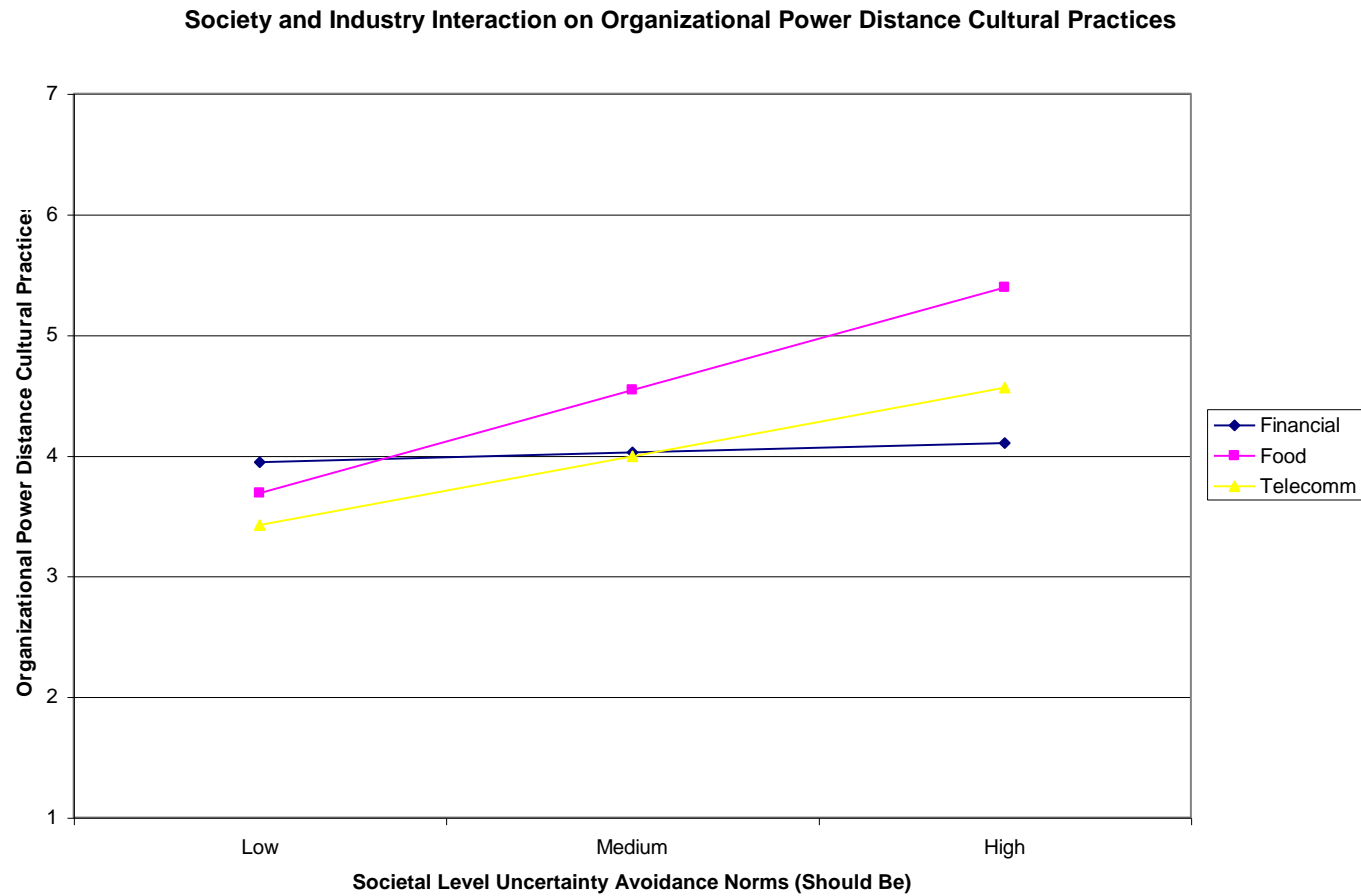


Figure 2

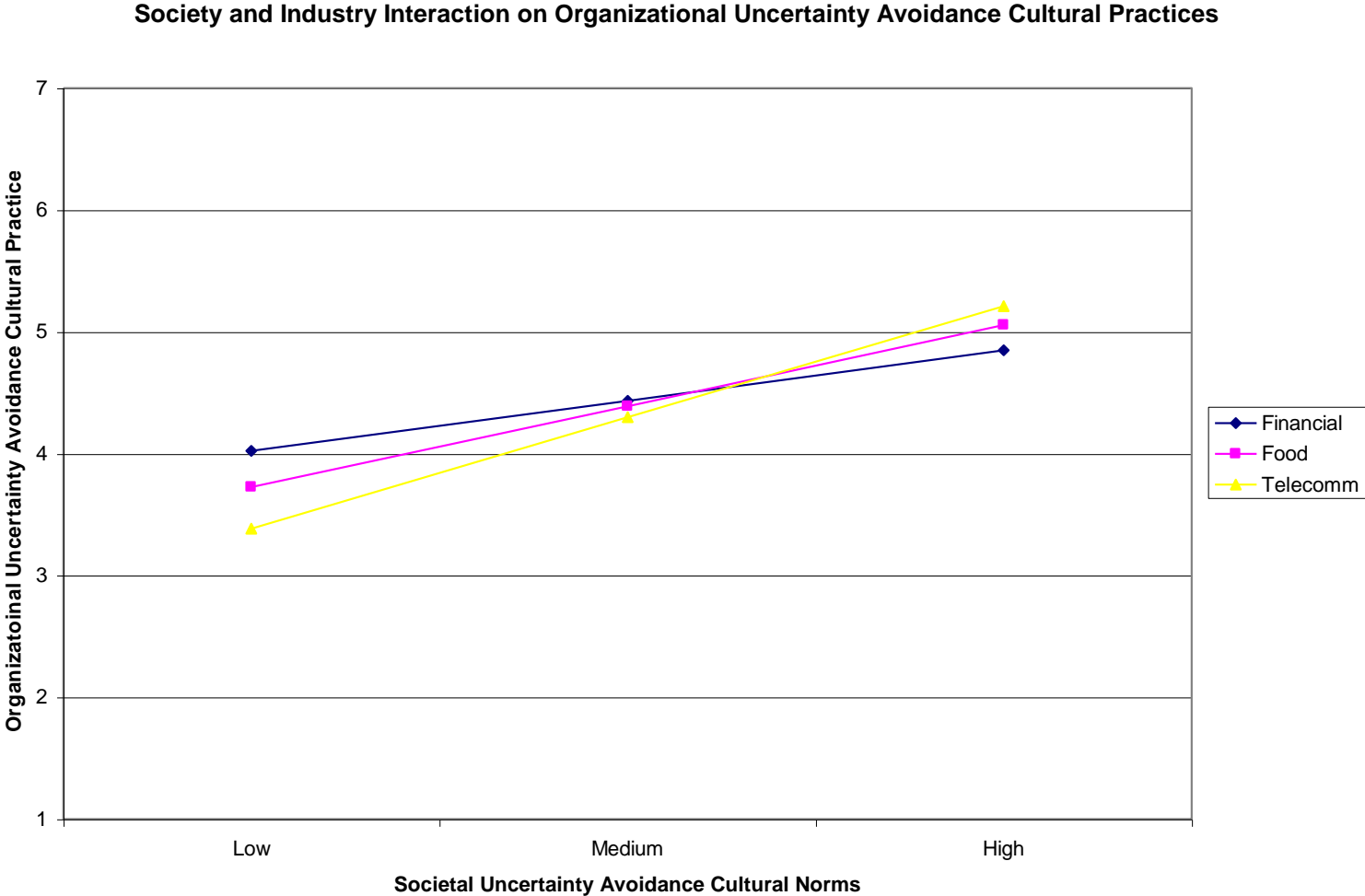


Figure 3

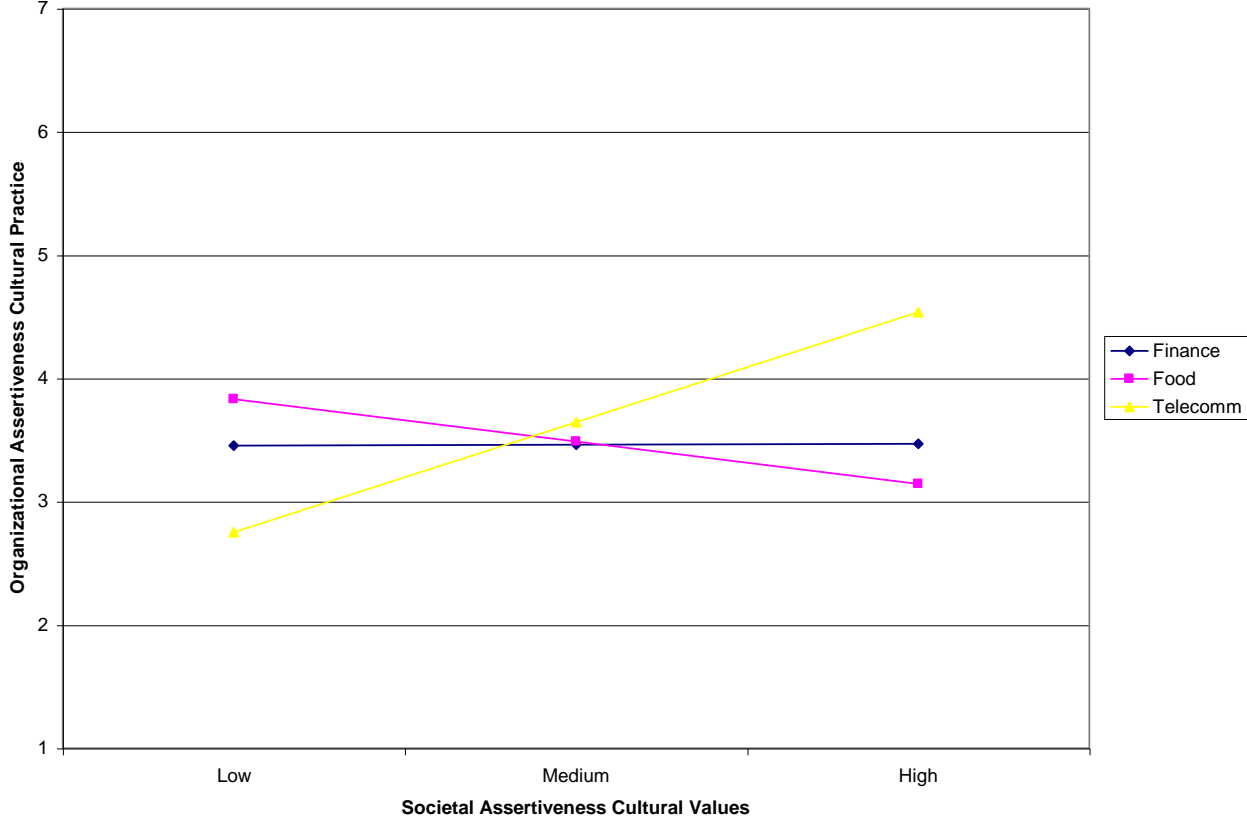
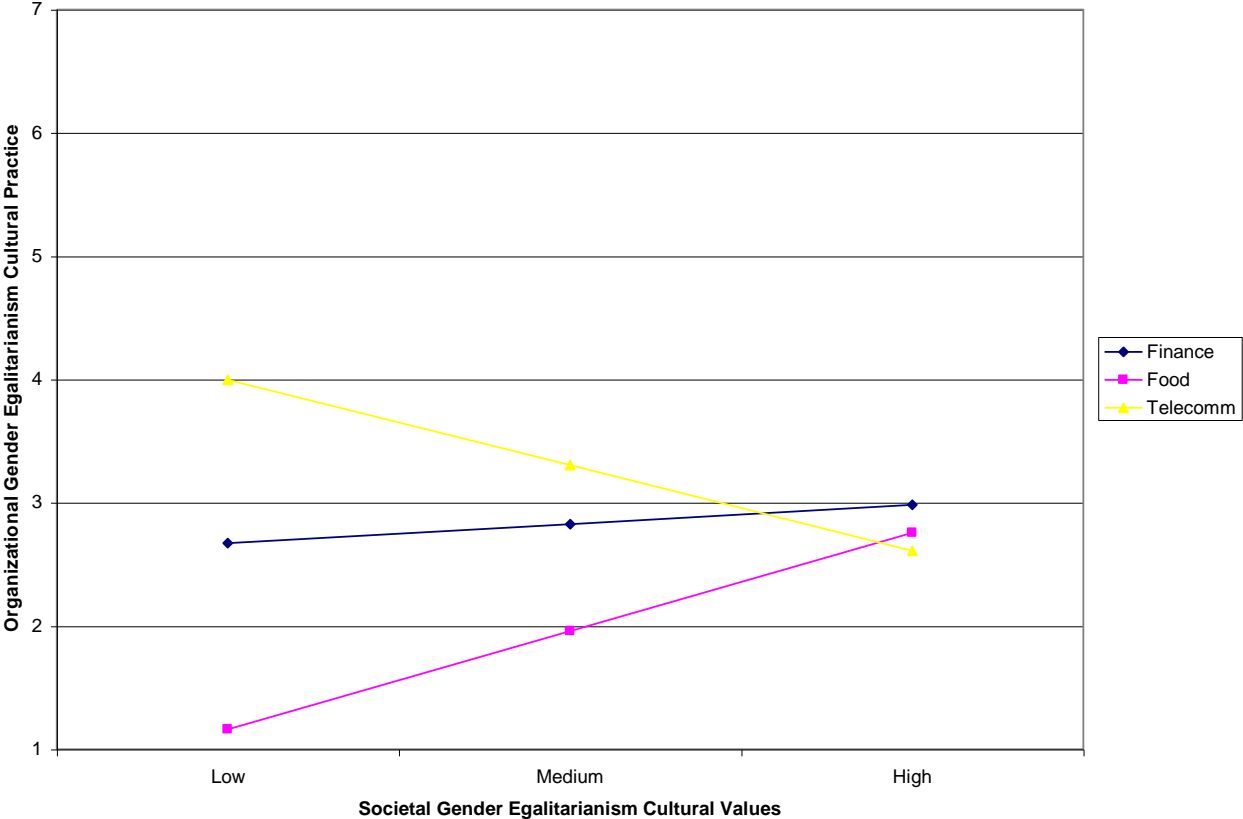


Figure 4



Footnotes

ⁱ The use of different middle managers to complete the organizational culture questions from the societal culture questions is critical for the present chapter. Any findings connecting society culture to organizational cultural practices cannot be attributed to same-source biases since different people completed the different scales.

ⁱⁱ It should be noted that these explained variance estimates are based on the hierarchical ANOVA results reported earlier and were not based on the random slope HLM analyses reported here. As discussed by Kreft & DeLeeuw (1998), explained variance estimates are not meaningful when computing random slope models. Thus, these variance estimates should be viewed cautiously.