Value Orientations in Selected Filipino Work Groups

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The study had two objectives. First, to explore, using both Hofstede's original questionnaire and a modified Hofstede questionnaire, if Hofstede's original results would be obtained. And second, to explore if there are significant differences in the above value orientations among the sample groups chosen. The overall sample indices were found to be about the same as those estimated by Hofstede over fifteen years ago particularly for power distance and masculinity. On uncertainty avoidance and individualism, his estimates were significantly lower than this study's overall sample means. Value orientations also differed across a wide range of occupational groups and research sites. Two questionnaires (Hofstede's original questionnaire and the research team's questionnaire) were used and found to be congruent. Thus, either one may be used for measuring intergroup differences. The results of this exploratory study provide enough basis to enlarge the sample in order to identify superordinate variables that will further explain the differences between groups obtained in this study. The next phase will report the findings on fifteen occupational groups and thirty research sites.

1. Introduction

Research has shown that cultural values differ across countries and that these have significant implications on management practices (Hofstede, 1980; Mendonca and Kanungo, 1994). In the Philippines the coexistence of modern cultural elements and more traditional value orientations has been described in the literature (Lynch, 1964; Corpuz, 1957, Fallows in Mangahas, 1994). Modern Western value orientations are generally associated with urban, professional educated Filipinos; whereas traditional value orientations are generally associated with the rural, blue collar and less educated.

Hofstede (1980) spent five years studying value orientations, not just of a single national culture, but of forty (40) countries, including the Philippines. In his research, Hofstede identified four dimensions of culture affecting management practices, as well as index scores which located the countries on each of these dimensions.

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A. Hofstede's Dimensions

These dimensions, discussed extensively in Hofstede's (1980) well-known study are: power distance, uncertainty avoidance, individualism and masculinity. Through statistical analysis Hofstede concluded that cultural differences among nations can be captured by these four value dimensions or indices.

Hofstede relates **power distance** index (*PDI*) with concentration of authority in the superior, acceptance of hierarchical authority structures, and an inability of lower levels to decide for themselves, therefore, precluding job autonomy. Power distance is, therefore, the extent to which one accepts that power (meaning influence or decisions) is unevenly distributed.

Uncertainty avoidance index (*UAI*) is related to three concepts - the need for employment stability, stress in the work place and orientation to follow rules. High uncertainty avoidance is associated with the reluctance to exercise autonomy and accept responsibility. Thus, workers are indifferent to feedback. Risk taking is discouraged and the use of noneconomic rewards which satisfies growth needs, such as challenges in the job, is inhibited.

Individualism (*IDV*) is the extent to which personal goals versus group goals is given importance. Low individualism implies the importance of family concerns and group accomplishments. The job is seen as a means to provide for his family, aged parents, spouse and children. Even when workers do well, they tend to get satisfaction, not from `work well done', but from `work well recognized.'

Masculinity index (*MAS*) is the extent to which work goals are prioritized over personal and social concerns. Low masculinity implies an orientation toward personalized relationships, rather than toward contractual relationships, or efficient and effective performance. Work can be set aside to perform social duties. Feedback is misconstrued as attacks on the person rather than on observed behaviors.

Using these dimensions, Hofstede described the cultural orientation of 40 different countries. For example, his research showed the Philippines to be very high on power distance, weak on uncertainty avoidance, collectivist and masculine in orientation. But beyond describing the cultural orientation of these countries is the need to probe deeper into value differences that exist among different work groups within a particular country. This is what this paper seeks to address - the value orientations of different work groups in the Philippine setting, using the same dimensions of Hofstede.

B. Objectives of the study

This study is an attempt to replicate Hofstede's overall characterizations of Philippine value orientations using both Hofstede's original questionnaire and a forced choice values questionnaire prepared by the research team, and a larger and more diverse sample.

Specifically the study aims to:

1. explore if the original results of Hofstede's study on the Philippines would be obtained with the use of another questionnaire and a more diverse sample; and

2. determine if there are significant differences in value orientations among the different work groups sampled using both questionnaires.

2. *Methodology*

A. Instruments

Hofstede's research was based on data provided by employees of a large multinational corporation based in the United States, with subsidiaries in 40 countries around the world. The respondents belong to a generally highly qualified work force of an organization with a distinct corporate culture. Hofstede's study, therefore, focused on an office-based, middle class work force with good educational qualifications. In the Philippines, large groups of workers are not office-based. They include those who are self-employed, the unskilled laborers, and those from rural, agricultural areas. For this reason the research team developed another questionnaire with items which captured both Hofstede's four dimensions as well as working conditions or situations outside an office or under conditions familiar to the self-employed worker.

Thus two instruments were used: 1) Hofstede's original questionnaire which consisted of 30 items, and 2) a forced- choice values questionnaire prepared by the research team consisting of 19 items each representing four choices. Each item contributed to a scale that matched Hofstede's dimensions.

Both questionnaires were given in Filipino, a language that the respondents including farmers, fishermen, etc. understood.[1]

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[1] Hofstede's original questionnaire translated into Filipino and the research team's questionnaire are available from the authors upon request.

B. Sample

The point of this study is to demonstrate cultural variations among different groups of a broad spectrum of the Philippine working population. To show as wide discrepancies in value orientations as possible, the research team drew up a sample with very divergent representation. Thus respondents were chosen from different occupations, age groups and regions. The number of respondents per working group was not the issue in this exploratory study. Rather the concern was more in getting divergent groups to highlight variations or differences among them.

A total of 545 respondents participated in this study distributed as follows:

a. Students		216
Malaybalay students	25	
UP undergraduates	134	
UP MBA students	57	
b. Farmers		142
c. Urban poor coordinators		12
d. Administrative staff		72
Malaybalay administrators	36	
UP administrative employees	36	
e. Teachers and staff		103
Public school teachers	77	
Private school teachers	26	
Total		545

The student group included 25 undergraduates from Malaybalay, Bukidnon; 134 undergraduate and 57 graduate students from the University of the Philippines, College of Business Adminstration (*UPCBA*). The UP students served as the comparison group. They are expected to be bound for managerial positions in business firms.

The farmers were from Infanta and Nakar in Quezon, Oriental Mindoro, Bataan, and Cebu. Among the administrative staff, 36 administrators were from Malaybalay and 36 were *UPCBA* administrative employees. The teachers were from Infanta, Quezon and Pangasinan.

There were about equal numbers of female and male respondents, or 49.9% and 50.1%, respectively. Four age groups were represented: 266 at 19 and below; 99 at 20 to 29; 71 at 30 to 39; and 70 at 40 to 49. The numbers do not equal 545 because some (30 respondents) did not indicate their age group.

C. Procedure

All the questionnaires were group-administered by the researchers except for the farmers' group. Four farmer cooperators were trained to administer the questionnaires individually, when the respondent could not read; or in small groups (about 5 to 7 at a time), if they were literate.

Time to complete the questionnaire varied. Some completed it in 20 minutes, others in 35 or 45 minutes and a few took about 2 hours to answer the questionnaire.

D. Data Analysis

Indices for power distance, uncertainty avoidance, masculinity and individualism were computed according to occupational group and research site. Weighted group means were used to compute estimates of overall sample indices from group indices. To determine significance, an interval was created around the weighted estimate of the total sample mean using plus or minus two standard errors.

Analysis was done at both the individual and group levels. To test for differences among groups of different occupations, research sites, gender and age, analysis of variance was employed.

Factor analysis, correlational analysis and stepwise regression were also performed.

3. *Findings*

A. Are the overall sample indices the same as those estimated by Hofstede over fifteen[2] years ago?

To answer this question two things were needed. First, an estimate of national indices. And second, an interval around the mean to be able to show significance of difference. The overall sample indices were taken as estimates of the national indices. They were computed using weighted means for each of the four dimensions. An interval around the national estimate was created to determine if this study's estimate is significantly different from Hofstede's. The research team used two standard errors around the overall sample mean for each dimension. See Table 1.

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[2] Hofstede's Culture Consequences: International Differences in Work -Related Values was published in 1980. In this research, he used data collected around 1968 and around 1972.

1. Power Distance

Hofstede reported the Philippines as highest among the countries represented with power distance index at 94. This study's estimate of the overall sample mean for power distance is 91.9 or 92. The interval created by plus and minus two standard errors is from 95.5 to 88.3.

Although this study's estimate is numerically different from Hofstede's estimate, it is not significantly different.

Table 1: Overall sample mean, SD, and SE

Number in this category	Weighted Mean	SD	SE	Interval	
				From	To
PDI By group 9	91.9	14	1.8	95.5	88.3
UAI By group 9	54.4	24	3.1	60.6	48.2
MAS By group 9	65.0	13	1.7	68.4	61.6
IDV By group 9	41.3	6	0.8	42.9	39.7

2. Uncertainty Avoidance

Hofstede reported the Philippines as weak on uncertainty avoidance (44). The total sample estimate from this sample is 54.4 for uncertainty avoidance. The interval is from 60.6 and 48.2. Hofstede's *UAI* score for the Philippines is significantly lower than this study's estimate of the overall sample mean for uncertainty avoidance. The study's estimate places the total sample index as moderate, not weak on *UAI*.

3. Masculinity

Hofstede reported the Philippines as masculine in orientation at 64. The weighted mean masculinity index for this sample is computed at 65.0. The interval of the mean is from 68.4 to 61.6. The Philippine score from Hofstede is not significantly different from the total sample estimate. The present sample is also masculine in orientation.

4. Individualism

Hofstede calculated the *IDV* score for the Philippines at 32. For this sample, the total sample estimate for individualism index is 41.3. The interval of two standard error plus or minus the grand mean is between 42.9 and 39.7. Hofstede's score for the Philippines in 1980 is significantly lower than the overall *IDV* index for this sample.

In other words, Hofstede's estimates of power distance, and masculinity for the Philippines are similar to the overall mean of the present sample. However, his estimate of uncertainty avoidance and individualism are significantly lower than the overall sample means obtained in this study. It is important to note that Hofstede's characterizations of the Philippine culture over fifteen years ago, still essentially hold for two of the four dimensions. For the other two dimensions there is a 10 percent increase which can probably be explained by an almost twenty-five year difference in data gathering.

The next section addresses value orientations among the sample groups. It is important to know whether subgroups differed significantly from the overall sample indices to empirically document perceived cultural heterogeneity in the Philippines.

B. Are there significant differences in value orientations among sample groups?

To answer this question data were analyzed at two levels. **First**, at individual item level, analysis of variance for the main effects of occupational groups, research sites, gender and age was done and the results are summarized in Appendix A. **Second**, at group level the indices were compared with the overall sample indices.

1. ANOVA runs on individual items

ANOVA runs on **individual items** contributing to the four indices are reported in Appendix A. Methodologically, it is important to show through *ANOVA* runs at the item level, that there are significant differences across occupational groups and research sites. The main effects of gender and age did not consistently reach such significance levels.

The results of this analysis indicate that the main effects of occupational groups and research site are significant at the per item level. These results support an intergroup level of analysis.

2. Value Orientations among occupational groups

The same interval (see Table 1) used to evaluate estimates of total sample indices against Hofstede's results was used to evaluate differences in value orientations across occupational groups.

a. Power Distance Index

The interval around the overall sample mean on power distance is 95.5 to 88.3. Three groups have means higher than the upper end of this interval and four groups have means lower than the lower end of this interval.

Highest on *PDI* is the group of public school teachers (116) followed by urban poor coordinators (110) and farmers (98). The indices for these three groups are significantly different from the estimated total sample index of 91.9.

Lowest on *PDI* are undergraduate students from Bukidnon (75) and *UPCBA* (78), private school teachers (79), and rural administrators from Bukidnon (84). See Figure 1.

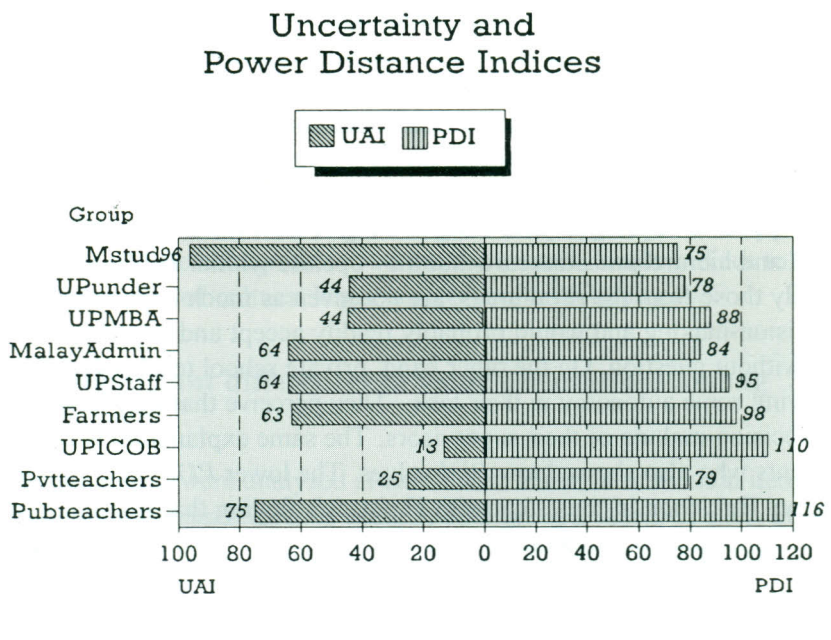
It is interesting to note that the two types of school teachers scored differently on the power distance index. The public school teachers exhibited high *PDI* values -- an indication of the highly centralized and hierarchical structure that they operate within. Public school teachers, especially those from the rural areas, are not given as much opportunity to participate in decision-making and would probably readily accept and implement orders and instructions without question. On the other hand, private school teachers probably see themselves as having some autonomy in their task. They perceive that they have some influence in the decision-making of their supervisors. The same explanation is likely to apply to the students who also showed low *PDI* values. The lower *PDI* value for the administrators from Bukidnon is consistent with Hofstede's finding that managers tend to produce low *PDI* values than non-managers.

b. Uncertainty Avoidance Index

On uncertainty avoidance, means for five groups are significantly higher than the overall mean, and means for four groups are found to be significantly lower. The interval is from 60.6 and 48.2. The highest on uncertainty avoidance is the group of undergraduate students from Bukidnon (96). These are working college students at a Protestant school where the rules are very strict. The students are practicing vegetarians, they grow their own food, and they live in a rule-oriented environment.

Next highest group on *UAI* are public school teachers (75). High scores on uncertainty avoidance imply that these students and teachers follow rules, desire employment stability and have high stress on the job.

Figure 1



Nida

The group of farmers (63) and the Malaybalay administrators (64) and UP staff (64) are high average on uncertainty avoidance.

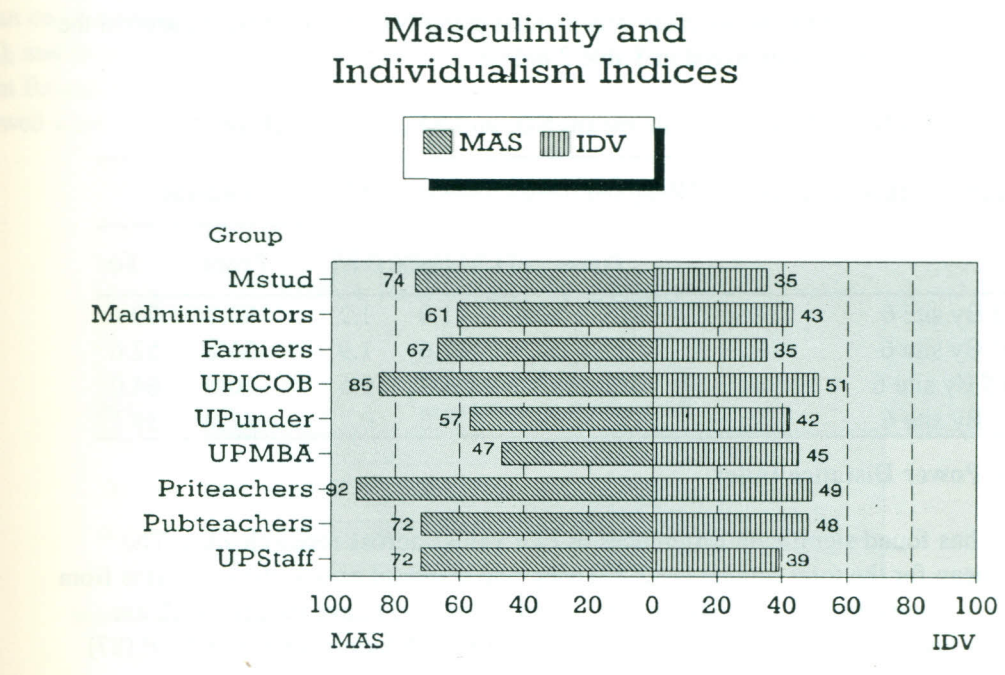
The lowest group mean on *UAI* is from the UPICOB (13). This is followed by the group of private school teachers (25). Private school teachers relate directly with their superiors. There are no layers between the administrator and the teachers, and the school is run autonomously by the principal. These work situations - job security and good interpersonal relations with the superior - ease tension and stress on the job.

c. Masculinity Index

The interval around the weighted mean for *MAS* index is from 68.4 to 61.6. The means for five groups are found to be significantly higher and the means for two groups, significantly lower. The highest masculinity index is from the group of private school teachers with a score of 92. These private school teachers are task oriented, assertive, and deal directly with their superiors.

The lowest on *MAS* or the most nurturing is the group of MBA students from *UPCBA* with a moderate score of 47. These graduate students are trained in management and may have acquired some skills at working with people and may have realized the importance of a humane working environment to generate the best in people.

Figure 2



d. Individualism Index

All the groups are moderate to weak on individualism with scores ranging from 51 to 35. The interval around the mean is from 42.9 to 39.7. The means for five groups are found to be significantly higher and two groups are found to be significantly lower than this interval.

The most individualistic are the urban poor coordinators (51) and the most collective in orientation are the rural college students from Bukidnon and the farmers (both at 35). See Figure 2. This implies that group goals are prioritized by rural students and farmers, while personal concerns and individual achievement are important for urban poor coordinators, teachers, graduate students and rural administrators.

3. Value orientation differences by research site

Another way of evaluating group differences is to examine them by location. The most urbanized is the group from *NCR* Metro Manila. Cebu is a city in the Visayas. Bataan and Pangasinan are rural sites in Luzon. And Bukidnon is a rural site in Mindanao.

The same procedure as in evaluating Hofstede's indices with the overall sample index, was used for determining significant differences between groups by research site. An interval around the weighted sample mean index was created using two standard errors around the mean. These values are summarized in Table 2 below.

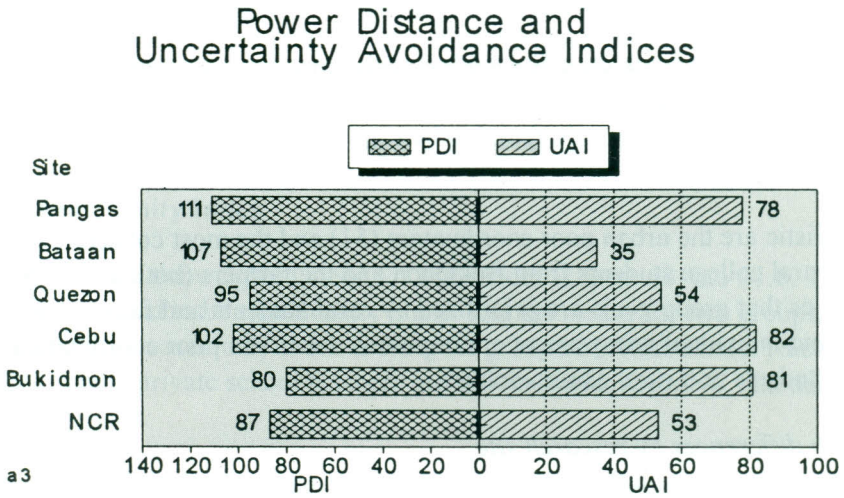
Table 2: Overall sample mean, SD, and SE,by research site

Number in this category	Weighted Mean	SD	SE	Interval	
				From	To
PDI By site 6	92.8	11.0	1.2	95.2	90.4
UAI By site 6	53.9	17.6	1.9	55.8	52.0
MAS By site 6	65.0	4.7	0.5	66.0	64.0
IDV By site 6	40.5	6.6	0.7	41.9	39.1

a. Power Distance Index

This study has found significant differences in *PDI* values across research sites. The weighted mean for the total sample is 92.8. Using two standard errors, the interval is from 95.2 to 90.4. Pangasinan (111), Bataan (107), and Cebu (102) have means which are significantly higher than the estimated sample mean while Bukidnon (80) and *NCR* (87) have means which are significantly lower.

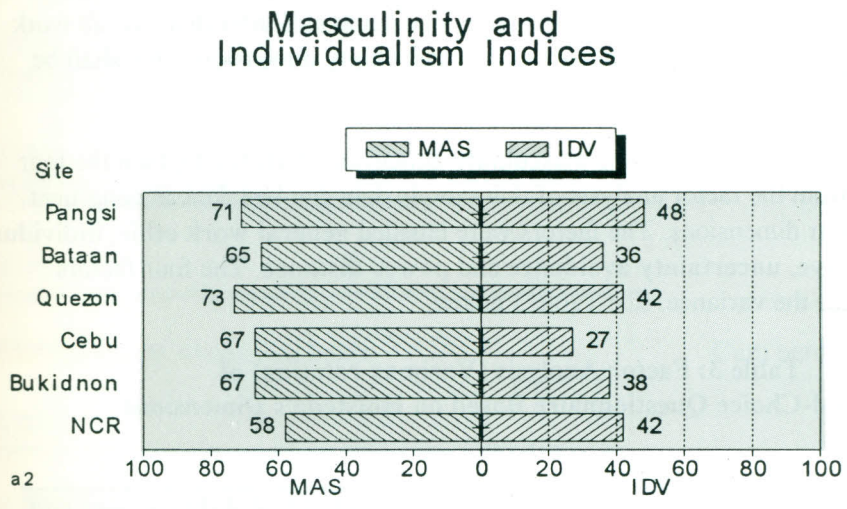
Figure 3



b. Uncertainty Avoidance Index

The weighted *UAI* mean for the total sample is computed at 53.9 The interval is from 55.8 and 52.0 See Figure 3. The means of three groups are significantly higher than the overall mean on uncertainty avoidance. These are the respondents from Cebu (82), from Bukidnon (81), and from Pangasinan (78). Significantly lower than the sample mean, are the groups from Bataan (35), *NCR* (53) and Quezon (54). Respondents from these last three groups showed weak scores on *UAI*.

Figure 4



c. Masculinity Index

The weighted sample mean for masculinity is 65. The interval is from 66 to 64. On masculinity the group from Quezon (73) is highest. Pangasinan is next at 71. Cebu and Bukidnon follow at 67. These scores indicate a masculine orientation.

Meanwhile, *NCR* is significantly lower than the mean and is lowest at 58. This is a moderate score for *MAS*. See Figure 4.

d. Individualism Index

The weighted total sample mean for individualism is 40.5. The interval is from 41.9 to 39.1. Although all the indices are on the low end of the continuum, ranging from 48 to 27, the most collective in orientation is the group from Cebu (27) and the most individualistic is the group from Pangasinan (48). See Figure 4.

C. Are the two questionnaires congruent?

Having found significant value orientation differences across occupational groups and research sites, the next question to ask is, "Are the two questionnaires congruent?" Is the underlying structure of the research team's questionnaire similar to Hofstede's four dimensions? To answer these questions, data were factor analyzed.

At an individual level of analysis, the forced-choice value questionnaire revealed four factors that matched the theoretical dimensions of Hofstede. Except for the first factor which loaded heavily on *IDV* and *PDI* scale items, one could still infer that overall work ethic and individual achievement were part of the masculinity dimension. This shall be further validated with group level data analysis.

If the first factor is congruent with the masculinity dimension of Hofstede, then the four factors obtained from the factor analysis of this sample data can be taken as congruent with Hofstede's four dimensions. The factors were labelled **general work ethic, individual versus the collective, uncertainty avoidance** and **power distance**. The four factors explained 35.5% of the variance. See Table 3 below.

Table 3: Factor Analysis (Varimax rotation) of Forced-Choice Questionnaire Based on Hofstede's Dimensions

FACTOR 1 General Work Ethic: Work Orientation, Individual Achievement and Rule Orientation[3] **Cum Percent 11.8**

.63 D14 (*MAS*)
Sa pagpili ng trabaho ang pinakamahalaga ay gumagamit ng aking talino at maaring makilala ang aking kakayahan.

.57 D8 (*MAS*)
Sa aking palagay ang mga magagaling na pinuno ay naipagpatuloy ang simulain at gawain kahit na may oposisyon mula sa iba.

.54 D1 (*IDV*)
Karamihan ay pipili ng kasama sa gawain na mataas ang kakayahan ay may sariling pag-iisip at epektibo kung nag-iisa.

.50 D4 (*IDV*)
Kung ikaw ang namumuno, gusto mong pumili ng mga tauhang may sariling pag-iisip, mataas ang pangarap, magaling sa trabaho, at umaasang maging pinuno balang araw.

.48 D3 (*PDI*)
Ang magaling na pinuno ay malayo sa mga tauhan at walang pakialam sa personal na bagay at hindi 'partial' kanino man.

[3] We took this factor to parallel Hofstede's masculinity dimension.

.45 D11 (*UAI*)
Kung may patakaran ang grupo, kinakailangang sundin kahit may kahirapan.

FACTOR 2 Individual versus Collective Orientation Cum percent 21.0

.66 D7 (*PDI*)
Bilang isang pinuno, ang pinakamagandang paraan sa pagdedesisyon sa mga problema sa trabaho ay tumatawag ng pulong upang kaagad maiparating sa mga kasama ang dapat gawin ng bawat isa.

.51 D17 (*PDI*)
Bahagi ka ng isang grupong nangangailangan ng maraming mabibigat na desisyon. Ano sa iyong palagay ang pinakamabisang paraan ng pagdedesisyon? Wala kaming karapatang makipagusap sa lider tungkol sa paraan ng pagdedesisyon.

.46 D10 (*IDV*)
Bago ka pa lamang sa trabaho at napansin mong malimit kang kinakamusta ng mga kasamahan mo tungkol sa iyong gawain. Ano ang iyong mararamdaman? Maiinis at iisiping wala silang tiwala sa iyong kakayahan.

-.40 D4 (*IDV*)
Kung ikaw ang namumuno, gustomg pumili ng mga tauhang masunurin at walang reklamo sa lahat ng utos.

FACTOR 3 Uncertainty Avoidance Index Cum percent 28.6

.64 D2 (*UAI*)
Kung ikaw ay kawani, mas gusto mo ang malinaw na nakalatag kung ano at paano gagawin ang gawain.

.59 D15 (*UAI*)
Ang pinakagusto kong gawain ay lahat ng patakaran ay malinaw na nakasulat kung alin ang tama at maling gawain.

-.50 D19 (*IDV*)
Tuwing matapos ang hapunan, ang iyong anak ay nagmamadaling lumabas ng bahay para maglaro. Ayon sa kanya, 'yun lamang ang panahon para maglaro. Bilang isang magulang, ano ang iyong gagawin? Pagagalitan at patutulungin sa gawaing bahay.

FACTOR 4 Power Distance Index Cum percent 35.5

.64 D5 (*PDI*)
Kung ikaw ang pinuno, gusto mo na lahat ng pamamaraan at layunin sa gawain ay galing sa iyo.

.54 D6 (*PDI*)
Ikaw ang lider sa isang gawain, kung may kailangang gawin gusto mo sa tauhan ay iyong hindi nanggugulo sa iyo tungkol sa trabaho.

.43 D9 (*PDI*)
Kung may problema ang pinuno at alam mong makakatulong ka sa paglutas nito, kinakailangang huwag makialam sa problema ng pinuno.

The first factor on the **general work ethic** includes "choosing work that uses my talents and recognizes my ability", "choosing a leader who can complete the work despite opposition from others", "a leader who is impersonal and impartial with everyone else". It also includes "choosing co-workers who have their own mind", "good at their work and

aspires to be a leader someday," and "follow rules despite difficulties". This factor seems to capture Hofstede's masculinity dimension.

The second factor is on the **individual versus the collective**. It includes items such as "leader centered decision making", "being left to fend for oneself in a task", and "valuing obedience to group leaders".

The third factor is on **uncertainty avoidance**. It includes "clear objectives and ways of doing a task" and "requiring the child to help in house chores".

The fourth factor is on **power distance**. It includes items that indicate high power distance: the supervisor "must give both the objectives and the ways of doing a task", "no questions from the workers about the task" and "no inputs to the leader about important problems".

D. Are Hofstede's indices, scale scores and factor scores from the values questionnaire related?

Correlation and regression analysis between the original indices of Hofstede, and the theoretical scale scores and the factor scores from the values questionnaire showed significant relationships.[4]

Although the items of the research team's values questionnaire were constructed to match Hofstede's dimensions, there is a need to empirically show that these clustered together statistically. This validation procedure is described fully in Edwards (1970).

a. First, within the new values questionnaire, *DMAS* (0.93), *DUAI* (0.78) and *DPDI* (0.75) scales are significantly associated with Factors 1, 3, and 4, respectively. These factors were labeled as *MAS*, *UAI*, and *PDI* from the factor analysis.

b. Second, *DPDI* scale scores is associated with Factor 4 (0.75). Factor 4 was labelled as *PDI*.

In other words, the theoretical dimensions by the new scales were validated by the factor analysis which showed significant correlation between the factor scores and the scale scores.

c. Third, *IDV* index is significantly associated with Factor 2 and is best predicted by it (R=0.95). *UAI* scale also significantly explains additional variance of *IDV* index (R=0.97).

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[4] Only some of the quantitative results are shown in the Appendicesdue to space constraints. The details of the statistical results can however be obtained from the authors upon request.

d. Fourth, *MAS* index is best predicted by the D*IDV* scale from the new values questionnaire (R=0.69).

e. And lastly, *UAI* index is best predicted by the *IDV* index (R=0.54).

In other words, although the number of groups used for this study is quite limited, two of Hofstede's four indices (*IDV* and *MAS*) were predicted by either the factors or the scales of the research team's values questionnaire. This values questionnaire was developed to match Hofstede's value dimensions and the results indicate that they, in fact, do. This suggests either questionnaire may be utilized for collecting data on value orientations.

Moreover, *UAI* and *IDV* indices were found to be correlated.

4. Summary and Conclusion

The study's overall sample estimates generally conform to Hofstede's earlier characterizations of Philippine value orientations. Two of the four indices, power distance and masculinity, were found to be essentially the same; in other words, not significantly different. The other two indices, individualism and uncertainty avoidance, were found to be statistically higher than Hofstede's estimate which suggests that Filipinos may have become more individualistic and more rule oriented to avoid anxiety over the last fifteen years.

Finally, a major purpose of this study is to explore differences in value orientations across a wide range of occupational groups and research sites. Through the wide discrepancies of value orientations on the four indices in this study, empirical evidence for cultural heterogeneity in Philippine work groups is provided . These may have implications in terms of management practices in the Philippines. There may be a need to vary managerial styles and practices to take into account both the dominant value orientations described in this study as well as the group differences in value orientations among Filipinos. And either of the two questionnaire instruments used in this study may be utilized as a tool for measuring intergroup differences.

The results of this exploratory study provide enough basis to enlarge the sample in order to identify superordinate variables that will further explain the differences between groups obtained in this study. The next phase will report the findings on fifteen occupational groups and thirty research sites.

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Appendix A

ANOVA runs on items contributing to the indices

To trace the sources of variation in the indices, responses on the items that contribute to the indices were analyzed. Using the .05 and .01 levels of significance as cut off, significant differences were observed at item level. The effects of group membership, research site, gender and age are presented in the tables below. Table A-1 is a summary of the results of the *ANOVA* runs at the individual level for power distance and uncertainty avoidance.

TABLE A-1: ITEMS CONTRIBUTING TO PDI AND *UAI*

F value and Significance effects for:	Occ. groups	Site	Sex	Age
df	8	5	1	3
POWER DISTANCE INDEX				
A29 Afraid to disagree				
F ratio	3.03**	10.7**	1.50	1.20
F probability	.0041	.000	n.s.	n.s
A22 Preferred manager #3.				
F ratio	5.08**	7.9**	3.6*	1.2
F probability	.00	.000	.059	n.s.
A23 perceived manager #1 &2				
F ratio	3.97**	1.9	2.3	1.78
F probability	.00	n.s.	n.s.	n.s.
UNCERTAINTY AVOIDANCE INDEX				
A24 stress				
F ratio	2.61**	3.13**	1.7	4.6**
F probability	.01	.015	n.s.	.003
A30 continue less than 5 years				
F ratio	12.41**	9.24**	1.67	7.9**
F probability	.00	.00	n.s.	.000
A25 rules should not be broken				
F ratio	2.16*	6.41**	5.99**	1.6
F probability	.04	.00	.014	n.s.

Legend:
* significant at .05
** significant at .01

Three items contribute to the power distance index. These are items 29, 22, and 23 on: "afraid to disagree", "preference for the consultative manager", and perceptions of having an authoritarian or paternalistic supervisor.

On all items the F ratios are significant at .01 level for occupational group. For two of the three items the F ratios are significant for research site. For sex only one of the three items has a significant F ratio, but the effect of age is insignificant for all three.

Three items also contribute to the uncertainty avoidance index. These are items 24, 30 and 25 on: "stress", "employment stability" and "rules should not be broken". The effect of occupational group and research sites on all items are significant at .05 or .01 level. The

effect of gender is significant only for item 25, on rule orientation. The effect of age on stress and employment stability is also significant.

Table A-2 summarizes the results of the *ANOVA* runs at the individual level for the masculinity index.

TABLE A-2: ITEMS CONTRIBUTING TO MAS

F value and Significance effects for:	Occ. groups	Site	Sex	Age
df	8	5	1	3
MASCULINITY INDEX				
A5 manager				
F ratio	2.29*	6.42**	4.41*	.414
F probability	.02	.000	.036	n.s.
A8 cooperation				
F ratio	2.01*	2.42*	.274	.379
F probability	.04	.048	n.s.	n.s.
A13 Desireable Area				
F ratio	2.49**	13.07**	.034	1.29
F probability	.011	.000	n.s.	n.s.
A6 Employment Security				
F ratio	1.2	2.23	3.88*	.356
F probability	n.s.	.066	.049	n.s.
A11 Earnings				
F ratio	6.94**	4.30**	.0096	1.99
F probability	.000	.002	n.s.	.114
A21 Recognition				
F ratio	3.14**	4.36*	5.39**	.226
F probability	.0018	.002	.021	n.s.
A14 Advancement				
F ratio	13.90**	21.78**	.188	5.67**
F probability	.000	.000	n.s.	.000
A2 Challenge				
F ratio	7.27**	18.5**	.827	3.35*
F probability	.000	.000	n.s.	.019
A11-A8 (masculinity)				
Importance of earnings, but not cooperation				
F ratio	9.78**	4.39**	.21	1.9
F probability	.000	.002	n.s.	n.s.

Legend:
* significant at .05
** significant at .01

Eight items contribute to the masculinity index. These are reported in Table A-2 with one composite item. For five of the eight items the computed F ratio for group membership is significant at either .05 or .01 level. Research site is significant for seven of the eight items. Gender is significant for three of the eight items and age, for two of the eight items.

The composite item is on the importance of **earnings**, but not **cooperation**. The effect of group and site are significant for this composite item, but gender and age are not.

Table A-3 summarizes the *ANOVA* runs at the individual level for the individualism index.

TABLE A-3: ITEMS CONTRIBUTING TO IDV

F value and Significance effects for:				
		Occ. groups	Site	Sex	Age
	df	8	5	1	3
INDIVIDUALISM INDEX					
A1 Personal time					
F ratio	1.61	7.60**	2.84	1.28
F probability	.129	.000	n.s.	n.s.
A7 Freedom					
F ratio	1.24	2.53*	.113	.778
F probability	.277	.040	n.s.	n.s.
A2 Challenge					
F ratio	7.27**	18.51**	1.09	2.62*
F probability	.00	.000	n.s.	.05
A19 Use of Skills					
F ratio	4.13**	6.77**	.316	2.06
F probability	.00	.00	n.s.	n.s.
A4 Desireable area					
F ratio	1.57	2.86*	1.44	.574
F probability	n.s.	.024	n.s.	n.s.
A20 Training					
F ratio	3.53**	15.55**	1.79	6.72**
F probability	.001	.000	n.s.	.000
A1-A20 (individualism) Importance of personal time but not training.					
F ratio	2.58**	1.49	.0001	7.13**
F probability	.009	n.s.	n.s.	.0001

Legend:
* significant at .05
** significant at .01

Six of the items contribute to the computation of individualism versus collective orientation. Occupational group is significant for three of the six items, but research site is significant for all six. Gender is insignificant for all six items and age is significant for two of the six items.

The composite score is on the importance of **personal time** but not **training**. The effect of occupational group and age is significant for the composite item, but the effect of site and gender is not.

What do all these results indicate? The per item results show that occupational groups and research sites significantly explain variance in the responses to the items. Since these contribute to power distance, uncertainty avoidance, masculinity and individualism, significant differences in the indices could well be due to these value orientations indicated by these items.

Appendix B

Computation of Scale and Factor Scores

Scale Scores from the New Values Questionnaire

DMAS = D8 + D12 + D14 + D16
DIDV = D1 + D4 + D10 + D19
DUAI = D2 + D11 + D15 + D18
DPDI = D3 + D5 + D6 + D7 + D9 + D13 + D17

Factor scores were computed using the following formulas:

FSD1 (FMAS) =.63*D14+.57*D8+.54*D1+.5*D4+.48*D3+.45*D11
FSD2 (FIDV) =.66*D7+.51*D17+.46*D10-.4*D4
FSD3 (FUAI) =.64*D2+.59*D15-.5*D19
FSD4 (FPDI) =.64*D5+.54*D6+.43*D9

Raw Scores Used for the Correlation/Regression Analyses

Groups	MAS	IDV	PDI	UAI	DMAS	DPDI	DUAI	DIDV	FSD1	FSD2	FSD3	FSD4
Mstud	74.5	34.5	75	96	8.5	11.6	9.9	8.6	7.3	1.6	2.1	3.2
Madm	60.9	43.2	84	63	10.6	10.4	9.9	8.9	8.5	0.9	2.2	2.6
Farmer	66.6	34.8	97	63	9	11.8	11.5	8.2	7.1	1.8	2.7	3.1
Urbanpoor	85.4	51.2	109	13	9.8	11.8	10.7	8.7	8.6	0.7	2.4	2.9
UPstaff	72	39.1	95	64	9.8	13.1	10.9	8.8	8.3	1.4	2.9	3.5
UPunder	56.9	41.9	78	44	10.4	11.6	9.2	8.9	8.6	1.2	2.1	3
UPMBA	47.1	44.6	88	43	11.5	12.5	10	9.2	9.2	1.1	2.3	3.2
Mt.Carmel	92.4	49	79	25	10.4	10.6	11.3	7.7	8.1	1	2.6	2.7
InfPublic	72.4	47.8	116	74	9.7	11.1	10.7	8.3	7.7	1	2.2	3.2
Malay	67.38	38.3	80.3	81.3	9.7	10.9	9.9	8.8	8	1.2	2.2	2.9
Quezon	73.24	42.4	94.7	53.5	9.7	11	11.5	7.8	7.6	1.2	2.7	2.9
Cebu	66.72	26.55	102.2	82.4	8.6	12.1	11.7	8.5	6.8	2.3	2.7	3
NCR	58.3	41.9	86.8	53	10.5	12.1	9.7	8.9	8.7	1.2	2.3	3.1
Panga	70.92	47.775	110.9	77.6	9.7	11.4	10.5	8.5	7.7	1	2.1	3.3
Bataan	65.46	36.475	107.2	34.6	9	12.1	10.9	8.4	7.4	1.6	2.3	3.5