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Revised Sources of Guidance Measures: Six Events and Demographic Controls

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Abstract

In this paper, we update the country-level scores of sources of guidance reported in Peterson and Smith (2008) across 61 countries and based on 7,982 respondents. These scores represent aggregate tendencies of the use of specific sources of guidance in a country and provide an alternative to value-based cultural measures. Based on role and cognition theories, sources include how roles, rules and norms influence decision making in six frequent organizational events that managers encounter. Scores are controlled for demographic effects of respondents' age and gender, as well as for organizational characteristics, namely ownership, department and organizational types. We also provide correlations between the sources of guidance scores and Hofstede's, GLOBE's, and Schwartz's dimension scores.

Introduction

The present paper revises the sources of guidance country scores published in Peterson and Smith (2008) by eliminating two of the 8 event types and controlling for the effects of demographics. As detailed, removing two types of events that middle managers experience less often than others has two advantages: (1) it reduces missing data when responses about the other six event types are combined without reducing measure stability, and (2) it reduces the length of the survey for future use. Controlling demographics improves country estimates beyond the limited matching that is possible by collecting data from managers in MBA and shorter term executive training programs.

Theoretically, the sources of guidance project takes a structural approach to culture that complements research about the contents of values and norms (Peterson & Smith, 2008; Smith, Peterson & Schwartz, 2002). It updates structural approaches like role theories and influence theories (*e.g.*, Kahn, Wolfe, Quinn, Snoek and Rosenthal, 1964) by integrating theories of meaning and cognition (Smith & Peterson, 1988). It proposes that cultural groups are not only differentiated from one another, but also have internally differentiated social structures (Peterson and Smith, 2008; Vora, 2008).

Sources of guidance in organizations are theorized as providing perspectives from which managers can draw to understand and react to work events. Work events include anything that triggers a manager's conscious attention (Smith *et al.*, 2002). Such triggers begin a personally deliberative and sometimes social process of giving an event meaning and deciding whether and how to react to it (Smith, Peterson, & Misumi, 1994).

Peterson and Smith (2008) provided scores for 10 sources of guidance for 59 countries. However, earlier studies suggest that factors other than countries can affect managers' reliance on sources of guidance (Smith *et al.*, 2005). By providing country scores using 6 instead of 8 events and controlling for demographic factors, we hope to provide scholars with a structural theory alternative to research based on the content of values and norms. The focus here will be on the methods used to construct the revised measures. We also provide evidence for their validity by correlating them with well-established value-based cultural measures in a way similar to Smith *et al.* (2002).

Demographic Effects on Sources of Guidance

Previous studies have found support for using sources of guidance to measure cross national differences (Peterson, Smith, Bond, & Misumi, 1990; Smith *et al.*, 2005; Smith *et al.*, 1994; Smith *et al.*, 2002; Smith, Peterson, & Thomason, 2011). However, other factors besides country impact the use of sources of guidance. Smith *et al.* (2005) operationalized vertical sources of guidance as an index reflecting the use of formal procedures and superiors versus reliance on one's subordinates and own experience. They report demographic effects on this composite indicator. However, it is not unlikely that demographic characteristics affect each source of guidance taken separately and should be taken into account when producing country level scores.

In the next section, we explain the structure of the survey, the characteristics of the sample, and the procedures used to control for demographic effects. We follow this with a discussion of how the sources of guidance scores are correlated with value-based measures.

Method

Sources of Guidance Questionnaire

The Managerial Decision Questionnaire presented respondents with eight kinds of work events and asked them to rate the extent their department uses each of eight sources of guidance. The eight events were as follows: "appointing a new subordinate," "one of your subordinates is doing consistently good work," "one of your subordinates is doing consistently poor work," "some of the machinery or equipment in your department seems to need replacement," "another department does not provide the resources or support that you require," "there are differing opinions within your department," "you see the need to introduce new work procedures into your department," and "the time comes to evaluate the success of new work procedures." The eight sources of guidance are:

“formal rules and procedures,” “unwritten rules about ‘how we do things around here,’” “my subordinates,” “specialists outside my department,” “other people at my level,” “my superior,” “opinions based on my own experience and training,” and “beliefs which are widely accepted in my country about what is right.” Five-point Likert scales ranging from “to a very large extent” to “to a very small extent” were used.

Respondents were also asked to indicate their demographic characteristics. Primary socialization indicators were age and gender, and secondary socialization indicators were organizational ownership, industry and department type (Smith *et al.*, 2005). People internalize and reproduce ways of thinking and acting into which they have been socialized, so these categories have the potential to affect reliance on different sources of guidance (Smith *et al.*, 2005).

Sample

Data from 8,151 managers were collected in 62 countries as part of the Managerial Decision Questionnaire (MDQ) project (no data from the Clipper project, a later related project using a revised survey were included). Respondents were sorted according to their reported country of work. Of the original 66 countries where respondents report working, three countries with less than 30 respondents (Ireland, Canada, and Egypt) were removed. Due to errors during survey administration, some surveys from Argentina and Lebanon were removed from the analysis, given that these surveys did not include demographic questions. Additionally, the last two events were missing from the Philippine survey. We substituted the missing values with estimates based on the rest of the sample. These analyses are available from the authors. We also combined respondents working in Bahrain ($n=20$) and the United Arab Emirates ($n=15$) rather than simply removing them from the analysis in order to have Middle Eastern countries more thoroughly represented in our sample. After these procedures, the sample size consisted of 7,982 respondents working in 61 countries.

The sources of guidance scales were formed by using six of the eight work events. “Appointing a new subordinate” and “a subordinate is doing consistently poor work” were dropped due to a low response rate of 88.2% and 88.8%, respectively. Individual level reliabilities by country ranged from 0.52 to 0.96. Only 8.4% of the 495 reliability coefficients are below the recommended .70 (Nunnally, 1978).

Cross-cultural studies can show country-specific response patterns in the way individuals tend to answer questions in a survey (Smith *et al.*, 2002). In order to correct for response biases, we within-subject standardized our measures. This procedure entails correcting a respondent’s answers according to his or her own tendencies to answer survey questions in general. The mean and standard deviation of the respondent’s answers for an event are calculated, and the answers for that event are standardized. This procedure is repeated for all events. These standardized responses are averaged to create within-subject standardized scores for each source of guidance. We allowed one missing observation per mean calculation, meaning that if a respondent had responded to five or

six of the six events for a particular source, the mean was calculated. If a respondent had responded four or less of the sources, the mean would not be calculated. Final sample sizes ranged from 7,098 to 7,250 for each source of guidance.

Results

We considered the possible effects of age, gender, organizational ownership, organizational type, and department types. For most demographic variables, we included a “missing” category and tested the effects of missing observations. For age, missing observations were replaced by the mean age for each country. For gender we used three subcategories (female, male, missing); for organizational ownership we had 6 categories (government, multinational, domestic private, mixed government and private, other, and missing); for organizational type we had 4 categories (manufacturing, service, other, and missing); and finally, for department type we had 14 categories (production, service delivery, sales, marketing, R&D, personnel/HR, financial and accounting, engineering, maintenance, general production site management (GPSM), general management, training, other, and missing).

Using ANCOVAs and ANOVAs with Scheffe multiple comparisons, we selected any variable with an explained variance (measured by partial eta-squared) of .5% or higher in any of the sources as a controls for all the sources. This conservative approach using the same controls for all sources of guidance ensured that any important effects were included as controls, even though some adjustments, likely negligible, would also be made in some variables for which a given control showed no effects. Using this procedure, all categories were controlled for, with the exception of marketing and training department types, which were combined with one another.

Once the potential demographic controls were selected, we produced the new controlled scores. First, each of the within-subject standardized sources was regressed on age and the residuals were saved. This creates scores (residuals) that are controlled for the effects of age. These new scores are then used as the dependent variable in an ANOVA with the three categories of gender. The residuals are saved and used in the next ANOVA for the organizational ownership categories. This procedure was repeated until all of the controls were included. Since we also controlled for missing demographic effects by creating a missing category for each variable, the sample sizes of the controlled scores are the same as the sample sizes of the scores before the demographic adjustments.

The new controlled scores for each respondent were then aggregated (averaged) to the country level ($.05 < ICCs(1) < .13$ and $.86 < ICCs(2) < .95$). Following House, Hanges, Javidan, Dorfman, and Gupta (2004), we regressed aggregated raw scores on the aggregated controlled within-subject standardized scores producing unstandardized predicted values that serve as scores rescaled into the original 5-point range. These scores

are the controlled and transformed sources of guidance for each country provided in Table 1. Reliabilities of raw scores at the country level ranged from .90 to .99.

Table 1
Controlled Sources of Guidance Scores^a

Country of Work	Proc	Uwr	Sub	Spec	Cow	Sup	Own	Bel
Argentina	2.95	3.13	2.97	2.75	2.99	3.47	3.74	2.51
Australia	3.34	3.22	3.00	2.62	2.80	3.47	3.78	2.37
Austria	3.08	3.01	3.20	2.80	2.77	3.32	3.87	2.38
Bahrain/UAE	3.85	2.83	3.01	2.62	2.88	3.55	3.62	2.37
Barbados	3.37	3.10	3.14	2.67	2.90	3.44	3.73	2.33
Belarus	2.83	2.91	3.05	2.78	2.78	3.70	3.72	2.70
Brazil	3.36	3.11	2.95	2.77	2.78	3.28	3.77	2.53
Bulgaria	3.41	3.07	2.74	2.51	2.69	3.57	3.77	3.02
Chile	3.41	2.93	2.73	2.60	2.89	3.55	3.75	2.85
China	3.42	3.06	2.51	2.68	2.71	3.46	3.64	3.34
Colombia	3.15	2.92	3.22	2.75	2.95	3.07	3.80	2.75
Czech Republic	3.19	2.78	3.11	2.79	2.73	3.44	4.04	2.24
Denmark	2.79	3.01	3.58	2.63	2.93	3.23	3.82	2.49
Finland	2.34	3.16	3.38	2.74	2.99	3.40	3.96	2.29
France	3.08	3.29	3.18	2.63	2.83	3.49	3.77	2.23
Germany	2.96	2.81	3.39	2.82	2.80	3.37	3.97	2.18
Greece	3.47	3.16	2.71	2.54	2.74	3.52	3.90	2.62
Hong Kong	3.52	3.17	2.91	2.43	2.65	3.66	3.71	2.74
Hungary	2.56	2.80	3.32	2.95	3.39	3.49	3.99	1.55
Iceland	2.68	3.04	3.09	2.61	3.15	3.68	3.90	2.23
India	3.27	3.09	2.94	2.55	2.94	3.39	3.60	3.06
Indonesia	3.89	3.20	2.53	2.54	2.53	3.49	3.69	3.03
Iran	3.16	3.31	2.47	2.63	2.86	3.46	3.66	3.24
Israel	3.15	3.34	3.11	2.51	2.83	3.52	3.93	2.09
Italy	3.08	2.82	3.22	2.81	2.95	3.42	3.83	2.29
Jamaica	3.39	3.02	2.92	2.56	2.85	3.65	3.67	2.63

Japan	3.53	2.82	3.07	2.61	2.82	3.59	3.70	2.55
Kenya	3.69	2.78	2.76	2.78	3.02	3.69	3.60	2.34
Lebanon	3.64	3.10	3.05	2.63	2.70	3.57	3.63	2.44
Macao	3.30	3.13	3.10	2.53	2.91	3.61	3.79	2.20
Malaysia	3.82	2.98	3.02	2.52	2.76	3.60	3.47	2.75
Mexico	3.38	3.05	2.87	2.79	2.75	3.46	3.56	2.82
Netherlands	2.82	3.11	3.51	2.61	2.71	3.17	3.92	2.65
New Zealand	3.10	3.23	3.07	2.63	3.07	3.35	3.72	2.47
Nigeria	3.72	2.96	2.96	2.71	2.88	3.45	3.44	2.71
Norway	2.87	2.85	3.33	2.60	3.06	3.31	3.80	2.77
Oman	3.44	2.93	2.98	2.80	2.97	3.61	3.69	2.12
Pakistan	3.47	3.17	2.85	2.70	2.82	3.54	3.55	2.60
Philippines	3.42	3.22	3.16	2.65	2.60	3.30	3.66	2.69
Poland	3.30	2.61	2.82	2.68	2.75	3.93	3.94	2.37
Portugal	3.39	3.38	2.97	2.69	2.71	3.58	3.87	1.81
Qatar	3.97	2.77	3.34	2.74	3.39	--	3.49	2.10
Romania	3.29	2.77	2.72	2.72	2.72	3.48	3.82	3.13
Russia	3.11	2.90	3.19	2.67	2.85	3.61	3.94	2.05
Saudi	3.48	3.22	3.22	2.70	3.19	3.02	3.54	2.37
Singapore	3.49	3.34	2.86	2.58	2.68	3.31	3.70	2.85
Slovakia	3.04	3.13	3.04	2.69	2.68	3.55	3.87	2.44
South Africa	3.22	3.01	2.94	2.66	2.97	3.62	3.75	2.40
South Africa Black	3.47	2.92	2.91	2.68	2.84	3.56	3.61	2.75
South Korea	3.54	3.45	2.83	2.55	2.57	3.51	3.51	2.93
Spain	3.26	3.09	2.79	2.74	2.88	3.58	3.70	2.58
Sri Lanka	3.47	3.08	3.07	2.64	2.79	3.54	3.63	2.47
Sweden	3.39	2.87	3.14	2.77	2.64	3.25	3.81	2.71
Taiwan	3.88	2.33	2.75	2.71	2.76	3.65	3.59	3.18
Tanzania	3.41	2.63	3.03	2.93	3.24	3.45	3.48	2.44

Thailand	3.14	2.61	3.42	2.58	2.96	3.42	3.61	3.00
Turkey	3.19	3.24	2.97	2.44	2.96	3.72	3.64	2.56
Uganda	3.71	2.85	2.75	2.74	3.08	3.70	3.54	2.33
Ukraine	2.93	2.87	3.08	2.76	2.99	3.83	3.65	2.36
United Kingdom (UK)	3.00	3.06	3.13	2.63	2.93	3.43	3.88	2.42
USA	3.27	3.03	3.11	2.56	2.91	3.53	3.68	2.58
Zimbabwe	3.66	2.97	2.78	2.54	2.74	3.68	3.77	2.56

^a Scores are based on the averages of six events, controlled for demographics, and rescaled onto the original five-point Likert scale where “1” indicates reliance to a very small extent and “5” indicates reliance to a very large extent.

Correlations with Other Cultural Measures

We also correlated the controlled sources of guidance scores with other cultural values measure scores in a way similar to Smith *et al.* (2002; details available from the authors). The correlations included GLOBE’s “as is” and “should be,” Schwartz’s Value Survey (SVS) (Shalom Schwartz, personal communication, August 2007), Hofstede’s four original dimensions (Hofstede, 2001) and a more recent version that includes Long Term Orientation (LTO) and Minkov’s Indulgence vs. Restraint (IVR) published in Hofstede, Hofstede, and Minkov (2010). The patterns of correlations with Hofstede’s 2001 and 2010 scores were fairly consistent, with a few exceptions noted below. We compared the correlations for the Hofstede and SVS measures using the revised sources measures with previously unpublished correlations separating the sources combined into the verticality measure that was reported in Smith *et al.* (2002).

Procedures

Reliance on procedures was positively correlated with in-group collectivism “as is” and uncertainty avoidance “should be,” and was negatively correlated with gender egalitarianism “as is,” gender egalitarianism “should be” and humane orientation “should be” from GLOBE. Procedures also showed significant positive correlations with some SVS measures: embeddedness, hierarchy, and mastery. It was negatively related to the SVS harmony, affective autonomy, intellectual autonomy, and egalitarianism measures. Finally, reliance on procedures showed significant relationships with Hofstede’s power distance and individualism in positive and negative directions respectively. Correlations with the Hofstede’s updated scores showed the same pattern (details from the authors). Hofstede’s power distance was not significant for the original measure of procedures.

Unwritten Rules

Reliance on unwritten rules had no significant relationships. The correlation between this source and Schwartz's hierarchy-egalitarianism was significant in Smith *et al.* (2002).

Subordinates

Reliance on subordinates was negatively related to GLOBE's in-group collectivism "as is" and uncertainty avoidance "should be," while positively related to gender egalitarianism "as is" and gender egalitarianism "should be." Reliance on subordinates was negatively related to SVS embeddedness, hierarchy, and mastery, whereas it was positively related to affective autonomy, intellectual autonomy, and egalitarianism. Finally, it was negatively correlated with Hofstede's power distance and positively correlated with Hofstede's individualism and Minkov's IVR. The correlations with the updated scores from Hofstede *et al.* (2010) showed the same patterns. The correlation of this source and Schwartz's harmony-mastery was not significant for the original measure of this source.

Specialists

Reliance on specialists was positively related to SVS harmony, and negatively to hierarchy and mastery. No other correlations were significant. The correlations between this source and other value measures were not significant in Smith *et al.* (2002).

Coworkers

Reliance on coworkers was positively correlated with gender egalitarianism "as is" and negatively related to performance orientation "as is." Reliance on coworkers was also positively related to Hofstede's individualism, and negatively related to LTO. The updated Hofstede scores showed one correlation pattern different from the original score correlations: power distance was significantly and negatively correlated with coworkers ($r = -.30^*$, $n=44$). The correlation with individualism was not significant in Smith *et al.* (2002).

Superiors

Reliance on superiors was positively correlated with GLOBE's in group collectivism "as is" and uncertainty avoidance "should be," while it was negatively correlated with uncertainty avoidance "as is," and gender egalitarianism "should be." Reliance on superiors was also positively correlated with Schwartz's embeddedness, and negatively correlated with affective autonomy and egalitarianism. Hofstede's power distance was positively related with reliance on superiors, but only when the 2001 scores were used. Finally, reliance on superiors showed a negative significant correlation with Minkov's IVR. Reliance on superiors was not significantly correlated with other value measures in previous analyses.

Own Experience

Reliance on own experience was positively related to GLOBE's gender egalitarianism "as is" and "should be," performance orientation "should be," and humane orientation "should be," while it was negatively related to in-group collectivism and humane orientation "as is," and uncertainty avoidance "should be." The SVS measures harmony, affective autonomy, intellectual autonomy, and egalitarianism were positively correlated with own experience, while embeddedness and hierarchy were negatively correlated. Hofstede's power distance was negatively related to reliance on own experience, while individualism and uncertainty avoidance were positively related. The updated Hofstede scores showed that uncertainty avoidance becomes non-significantly related to reliance on own experience. Harmony-mastery, hierarchy-egalitarianism, power distance, individualism and uncertainty avoidance did not show significant correlations with own experience using the earlier sources measures.

Beliefs

Reliance on widespread beliefs showed several significant correlates with the cultural values measures. GLOBE's gender egalitarianism "as is," in-group collectivism, gender egalitarianism, humane orientation and performance orientation "should be" were negatively correlated with beliefs. Performance orientation "as is" was positively correlated with beliefs. SVS's harmony, intellectual autonomy and egalitarianism were negatively related with reliance on beliefs, while embeddedness, hierarchy and mastery were positively related. Hofstede's power distance was positively related to reliance on beliefs, whereas individualism and masculinity were negatively related. The only difference in pattern when the updated Hofstede scores were considered was masculinity no longer showed a significant relationship with reliance on beliefs. None of the correlations with beliefs in Smith *et al.* (2002) were significant.

Conclusion

Sources of guidance provide researchers with an addition to cultural values in cross-national research. They are based on the effects of how managers report their work groups making sense of events occurring at work. This study has provided scholars with scores that are controlled for demographic effects, allowing any subsequent analysis using them to be even more representative of cross-national differences in manager sense-making.

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