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The Personality of Corruption

A National-Level Analysis

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Many other areas in the social sciences (e.g., economics, political science, and sociology) have devoted considerable research to understanding antecedents to national corruption. However, little research has explored psychological antecedents—specifically, personality measured at an aggregate level. In this study of 54 countries, the authors examined the independent, combined, and unique effects of national personality and G. S. Hofstede’s cultural dimensions on perceived national corruption. Nations scoring low on neuroticism and high on extraversion tended to be less corrupt, and the relationship between conscientiousness and corruption was explained by wealth. In addition, national personality contributed beyond other cultural, economic, and demographic variables predictive of national corruption: National personality incremented Hofstede’s cultural dimensions, national wealth, and national religion. These findings suggest that personality at the national level has substantial relations with nations’ corruption and that these effects merit closer scrutiny by researchers and policy makers alike.

Keywords: *corruption; government; national personality and culture; Five-Factor Model; cultural dimensions; Cultural Perceptions Index*

“Scandal” has become a common theme across headlines in the past decades: From the accounting fraud of Enron to bribery by mafia in Russian territories, to misuse of aid in Africa, corruption affects individuals worldwide. Indeed, the public has turned an increasingly critical and

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condemning eye toward corrupt government officials. In the 1990s, international organizations began to follow suit as the Organization for Economic Cooperation and Development, the International Monetary Fund, and the World Bank introduced measures to monitor and punish corruption more stringently. With this increased attention to curbing corruption, researchers have similarly turned their attention to understanding the domain and antecedents of corruption.

Researchers have generally converged on defining corruption as the misuse of public power for private benefit (e.g., Goldsmith, 1999; Lambsdorff, 2004; Xin & Rudel, 2004), which, for example, includes bribery, embezzlement, or kickbacks but excludes acts such as petty or violent theft or political instability. In this definition, corruption is not limited to government: *public power* refers not only to power held over the general public by government officials but also more broadly to power held over groups in industry and communities. Although multiple definitions of corruption exist in the literature and across cultures, many universal trends underlie corruption, such as the exploitation of power, the selfish orientation of the corrupt actor, and the detrimental effects of corrupt acts on the society in which they occur (Akindele, 1995).

Research on corruption can be conducted across multiple levels of analysis—namely, the individual level and the national level. As the name implies, research at the individual level typically asks the question, “What characteristics of individuals and situations cause some individuals to behave in corrupt ways?” Research at the national level asks the question, “What characteristics of nations cause greater rates of corruption at the national aggregate?” These questions, although conceptually similar, may or may not produce equivalent answers. For example, certain personality traits may predict corruption at the individual level. In an examination across nations, however, national means on those personality traits (which reflect national character and differences between national cultures; McCrae, 2001) may not show the same relationship with national rates of corruption. At higher levels of analysis, additional mechanisms may affect the relationship between personality and corruption (Ostroff, 1993). Thus, research should approach corruption not only at the level of the individual but also at higher levels of analysis for a richer understanding of the relationship between corruption and other variables.

Despite the importance of the topic and its relevance within psychology, little is known about the psychological antecedents of corruption, especially at the national level of analysis. In this study, we examine the relationship

between corruption and personality at the national level. In addition, we study national personality in tandem with national culture, examining the independent, combined, and unique effects of cultural dimensions and national personality traits on corruption. In the following paragraphs, we review the literature linking corruption to (a) national culture, (b) individual-level personality attributes, and (c) national-level personality characteristics.

Culture and Corruption: Theoretical and Empirical Findings

Hofstede has described culture as “the collective programming of the mind” (2001, p. 4; see also Hofstede, 1980); as such, it is likely that culture affects both individuals’ evaluations of corrupt acts (e.g., ethical acceptance or rejection) and cultural establishments that may foster corrupt acts. Hofstede described four cultural dimensions: individualism/collectivism (autonomy vs. assimilation with others), masculinity/femininity (valuing achievements and competition vs. caring and emotional attachments), power distance (the salience of social hierarchy and the degree of inequality), and uncertainty–avoidance (the extent to which the unknown is seen as threatening). These four dimensions have been frequently studied in relation to other national characteristics.

Husted (1999) studied the relationship between Hofstede’s cultural dimensions and national corruption. Power distance was the strongest cultural predictor of corruption ($r = .72$), perhaps because countries high in power distance tend to reward loyalty rather than merit, making subordinates be less likely to challenge the corrupt practices of their superiors. Masculinity showed a modest correlation with corruption ($r = .27$), consistent with claims that higher proportions of women in government reduce corruption (Dollar, Fisman, & Gatti, 2001; Swamy, Knack, Lee, & Azfar, 2001). This argument seems likely to generalize from government to other work organizations. Uncertainty–avoidance showed a modest correlation with corruption ($r = .32$), perhaps because the profitability yielded by corrupt acts provides individuals in countries high in uncertainty–avoidance with a sense of security and stability (e.g., embezzlement ensures one’s financial solvency). Collectivism also showed a strong association with corruption ($r = .72$); however, this relationship disappeared after controlling for wealth (controlling for wealth did not appreciably alter the relationships observed between corruption and power distance, masculinity, or uncertainty–avoidance).¹

Personality and Corruption at the Individual Level of Analysis

Although personality has been studied in psychology for nearly 100 years, the past 2 decades have produced major advances in understanding the structure of personality. Many converging lines of research have suggested that five main factors underpin personality traits (Digman, 1990; McCrae & Costa, 1987): neuroticism, extraversion, openness to experience (i.e., the NEO factors), agreeableness, and conscientiousness. Neuroticism (the opposite end of which is known as emotional stability) describes individuals' tendencies to be depressed, anxious, emotionally erratic, and lacking self-esteem. Extraversion is composed of traits of sociability, dominance, and activity. Openness to experience describes individuals' tendencies to be interested in learning, new ideas, culture, and aesthetics. Agreeableness describes individuals' tendencies to be kind, polite, and nurturing. Conscientiousness is composed of traits of achievement striving, cautiousness, dependability, and orderliness. Thus, these five factors constitute the Five-Factor Model of personality.

Considerable research has explored the relationship between these five personality factors and counterproductive work behaviors (CWBs), a domain of behaviors containing corruption. Recent meta-analyses have linked CWBs to conscientiousness (range restriction and unreliability corrected $\rho = -.26$),² agreeableness ($\rho = -.20$), and integrity ($\rho = -.47$; Baehr, Jones, & Nerad, 1993; Salgado, 2002). In a separate meta-analysis, Berry, Ones, and Sackett (2007) studied the relationship of the Big Five traits with organizational deviance (CWBs that are harmful to the organization) and interpersonal deviance (CWBs that are harmful to other co-workers). Again, agreeableness and conscientiousness were strongly related to measures of CWBs; however, these correlations diverged slightly when interpersonal deviance was compared with organizational deviance. Conscientiousness correlated more strongly with organizational deviance ($\rho = -.42$) than with interpersonal deviance ($\rho = -.23$), whereas agreeableness correlated more strongly with interpersonal deviance ($\rho = -.46$) than with organizational deviance ($\rho = -.32$). In addition, emotional stability proved to be a moderate predictor of interpersonal and organizational deviance (ρ s = $-.24$ and $-.23$, respectively). This research, however, has focused on mid- to lower level employees rather than on the higher level employees, including those more likely to commit corrupt acts. Some of the behaviors that constitute corruption have parallels to the CWBs of entry-level employees (e.g., embezzlement is comparable with theft), but other corrupt acts have no clear parallel

(e.g., bribery or insider trading; Jackson, 2006). Thus, although there may be overlap in the individual-level predictors of corruption and other CWBs, these relations may change when the more specific domain of corruption at the level of senior positions is considered.

Given the difficulty in obtaining research access to instances of corruption, relatively few studies of individual acts of corruption have been conducted. However, some research has examined white-collar crime, an overlapping construct. Collins and Schmidt (1993) compared the backgrounds (measured by a biodata questionnaire) and personality traits (measured by the California Psychological Inventory and an integrity test) of white-collar crime convicts to a second sample of white-collar employees. White-collar offenders scored lower on integrity ($d = 1.58$), socialization ($d = 1.02$), responsibility ($d = 0.57$), and tolerance ($d = 0.69$) and scored higher on social extraversion ($d = -0.58$) and anxiety ($d = -0.58$) than their nonconvict counterparts. Additionally, Baehr, Jones, and Nerad (1993) found internal locus of control and emotional health (two characteristics related to emotional stability) to be positively related to scores on a business ethics measure among a sample of upper managers. Within the five-factor framework, these studies suggest that white-collar crime relates to low conscientiousness and low emotional stability.

An additional stream of individual-level research related to corruption has focused on whistle-blowers. Whereas white-collar crime and CWBs are individual-level behaviors increasing national corruption, whistle-blowing is an individual-level behavior likely to reduce national corruption. Near and Miceli (1996) reviewed research on whistle-blowing and described whistle-blowers as being moral/religious, having a low tolerance for ambiguity, low self-esteem, and having an external locus of control. Miceli, van Scotter, Near, and Rehg (2001) proposed that whistle-blowers will be high on positive affect, will be low on negative affect, and will have proactive dispositions. Within the five-factor framework, whistle-blowing is likely to be positively associated with conscientiousness, extraversion, and agreeableness (the findings were inconsistent between whistle-blowing and constructs related to emotional stability: negative affect, self-esteem, and locus of control; Judge, Locke, Durham, & Kluger, 1998).

Personality and Corruption at the National Level of Analysis

Differences in national personality (typically operationalized as country's mean across individuals' personality profile) reflect differences in national

character and culture. It is interesting that some research suggests that the aggregated personality traits that make up national character do not closely correspond to stereotypes of nations (Terracciano et al., 2005). Thus, using national-level personality scores to study national corruption may provide a distinctive insight beyond using commonsense national stereotypes.

Previous research has also found correspondence between national means on personality and Hofstede's national cultural dimension scores (McCrae, 2001). For example, individualistic cultures tend to have higher mean levels of extraversion, and cultures high in uncertainty-avoidance tend to have higher means for neuroticism but lower means for agreeableness. In Hofstede and McCrae's article (2004), each author explored alternative causal interpretations of these relationships. Hofstede argued that these correlations reflect the societal impact of cultural norms on the development of personality. For example, in individualistic cultures, opportunities for individual expression and individuals' autonomy are emphasized and, as a result, members of those cultures become more extraverted and more open than they might have otherwise been. In contrast, McCrae argued that the genetic effect of personality and the historical development of some genetic homology within cultures have produced these mean level differences across nations in personality scores that have likely existed for centuries. McCrae argued that these differences between nations' mean personality scores have affected the way cultures have historically developed societal norms and institutions. For example, a culture with individuals predisposed to be more dominant and outgoing (i.e., extraverted) would be less likely to emphasize conformity to the collective. Thus, this correspondence between national personality and culture is meaningful not only in validating measures of these national-level differences but also in suggesting anthropologically rich relationships between individual characteristics and the development of societies.

Given that past research has strongly linked national culture to national corruption, a major question is whether national personality will show a corresponding pattern of relationships to national corruption. This is particularly true, given the encouraging findings linking personality to corruption-related behaviors at the individual level. As noted previously, a relationship observed between two variables (even when measured through the same method) may not necessarily replicate when studying higher or lower levels (Ostroff, 1993). For example, even if a positive relationship is observed between two variables across employees within a nation, the relationship between national-level means on the variables could show a positive, negative, or null relationship. When two variables manifest the same relationship across different levels, consistency exists across the levels.

However, when the relationship between variables differs across levels, an additional mechanism affects the relationship at higher levels.

Because relationships between variables may differ across levels, a body of research (Hofmann, 2002; Klein, Dansereau, & Hall, 1994) has emphasized the importance of considering relationships between variables at multiple levels of analysis. However, no research has yet examined the relationship between national levels of personality and corruption, with one exception. In describing national-level correlations of the Eysenck Personality Questionnaire (EPQ) with 30 national variables, van Hemert, van de Vijver, Poortinga, and Georgas (2002) noted small, insignificant correlations with corruption for psychoticism ($r = .03$), extraversion ($r = .05$), and neuroticism ($r = .14$). Corruption was strongly correlated with the Lie scale ($r = .71$), suggesting that countries with greater percentages of individuals who tend to present themselves in overly favorable ways tend to also experience more corruption. However, these analyses did not examine the independent effects of national personality on corruption beyond wealth or culture, nor did they examine how corruption relates to specific factors of the Five-Factor Model at the national level remains an outstanding research question.

The purpose of the present study is to more deeply explore the relationships between national personality, national culture, and national corruption. Table 1 lists the unique research questions explored in this study that contribute to this deeper understanding of the effects of national personality and culture on corruption. Given the relationships observed at the individual level between white-collar crime, whistle-blowing, and conscientiousness, we hypothesized that national levels of conscientiousness will predict national corruption. Given the absence of clear associations between other personality factors and individual-level behaviors related to corruption, as well as the null results observed between the corruption and the EPQ, our study of the relationships between corruption and agreeableness, extraversion, neuroticism, and openness to experiences is exploratory (i.e., the absence of sizable individual-level correlations may not replicate at other levels). In addition, we compare the effects of national levels of personality versus culture on corruption. Specifically, we explore whether these constructs overlap or provide incremental validity in predicting corruption.

Finally, we examine the incremental value of considering national personality characteristics after controlling for national wealth and religion. These two variables have previously been strongly linked to corruption, with nations with more wealth and higher percentages of Protestants having less corruption (e.g., Paldam, 2001; Xin & Rudel, 2004). Thus, we examine whether psychological antecedents to corruption, such as national

Table 1
Unique Research Questions Explored in the Present Study

No.	Research question
1	What effect does national neuroticism have on national corruption?
2	What effect does national extraversion have on national corruption?
3	What effect does national openness to experience have on national corruption?
4	What effect does national agreeableness have on national corruption?
5	What effect does national conscientiousness have on national corruption?
6	Does national personality predict national corruption beyond national culture?
7	Does national culture predict national corruption beyond national personality?
8	Does national personality predict national corruption after controlling for wealth and religion?

personality and national culture, will provide incremental validity beyond these established economic and demographic predictors of corruption.

Method

Sample

We obtained data on corruption and personality and/or culture for 54 countries (see Measures for sources). Table 2 lists these 54 countries, the data available for each country, and information about the sample sizes/number of sources included. Scores on each of the personality and cultural measures are based on average samples of 986 ($SD = 875.2$) and 1,564 ($SD = 2,530.3$) individuals, respectively. Of these countries, 8 were from North America (14.8%), 8 were from South America (14.8%), 19 were from Europe (35.2%), 12 were from Asia (22.2%), 2 were from Africa (3.7%), 3 were from the Middle East (5.6%), and 2 were from Australia/Oceania (3.7%). The gross domestic product (GDP) per capita for these countries was 0.63 standard deviations above the mean for the 144 countries with data on corruption, and the average population for these countries was 0.16 standard deviations above the mean for countries with corruption data. In addition, the standard deviation of GDP per capita was 22% greater than the 144-country sample, and the standard deviation for population was 5% greater than in the 144-country sample. Thus, this sample is not entirely representative of all nations, particularly nations with less wealth and those in the Middle East or Africa. However, the total of 54 countries represents a large percentage of the population of recognized

countries, and other national-level analyses have used similarly sized samples (e.g., Steel & Ones, 2002; van Hemert et al., 2002).

Measures

Corruption Perceptions Index (CPI). Published yearly since 1995 by Transparency International, the CPI is a measure of the extent of corruption within a country, defined as “the misuse of public power for private benefit” (Lambsdorff, 2004, p. 4). The CPI compiles items related to corruption from multiple international surveys to provide a global index of the corruption in each country. To be included in the indices, a survey must sample across countries, contain a measure of global corruption, and have been administered in the past 3 years (the last criterion was included only after 1996). The number of surveys included in the CPI has grown from 7 in 1995 to 18 in 2004. Over this period, the CPI has included 71 administrations of 26 different surveys (i.e., many surveys were conducted annually or semi-annually) conducted by 21 different organizations. These 71 administrations of the surveys included between 11 and 155 countries, with a mean of 61.90 ($SD = 46.29$). For a listing of the surveys used, characteristics of the sample/survey, and administering organizations, see the Appendix.

The samples used in these surveys fall into four general categories: managers and executives (43%), country analysts/experts (39%), expatriates (7%), and the general public (11%). Most survey items asked individuals to rate their perceptions of the frequency of corruption within the country, but some also asked individuals about their personal knowledge/experience of corruption or to estimate the extent of the (negative) effects corruption has on the country/business. Despite this breadth in surveys, samples, and questions used, the surveys show strong country-level correlations. The 759 available correlations between surveys had a mean correlation of .81 ($SD = .14$). Thus, differences between countries in perceived corruption are consistent across the surveys. In addition, the CPI scores correspond to what is commonly believed to be true about countries. For example, in 2004, the five least corrupt countries were Finland, New Zealand, Denmark, Iceland, and Singapore; the five most corrupt countries were Haiti, Bangladesh, Nigeria, Myanmar, and Chad (the United States being ranked 17th out of 143 countries). Thus, these scores demonstrate face validity and have been used in a number of other intercultural studies of corruption (e.g., Beets, 2005; Wilhelm, 2002; You & Khagram, 2005).

Since its creation, the CPI has followed three different procedures in combining surveys. From 1995 to 2000 (Procedure 1), the survey scores

Table 2
Sample Sizes for Each Measure, by Country

Country	NEO sample sizes	Hofstede's cultural dimension sample sizes		No. of years with corruption data available
		Time 1	Time 2	
Argentina	—	543	602	10
Australia	—	805	1,114	10
Austria	—	586	661	9
Belgium	1,119	1,057	1,328	10
Brazil	—	690	1,884	10
Canada	—	715	2,861	10
Chile	—	164	—	10
Colombia	—	175	252	10
Costa Rica	—	164	30	8
Croatia	722	—	—	6
Denmark	—	567	737	10
Ecuador	—	172	36	7
El Salvador	—	171	37	7
Estonia	1,037	—	—	7
Finland	—	377	425	10
France	1,066	4,691	6,646	10
Germany	3,730	3,477	7,907	10
Greece	—	111	127	10
Guatemala	—	153	23	6
Hong Kong	122	—	88	9
India	214	231	—	10
Indonesia	172	186	28	10
Iran	—	115	116	2
Ireland	—	119	132	10
Israel	—	142	215	9
Italy	690	1,797	—	10
Jamaica	—	181	24	5
Japan	681	2,345	4,103	10
Korea, Republic of	2,946	209	30	10
Malaysia	451	175	27	10
Mexico	—	498	518	10
Netherlands	1,305	593	1,204	10
New Zealand	—	173	240	10
Norway	1,142	360	459	10
Pakistan	—	37	70	9
Panama	—	152	26	4
Peru	439	138	152	7
Philippines	897	158	161	10

(continued)

Table 2 (continued)

Country	NEO sample sizes	Hofstede's cultural dimension sample sizes		No. of years with corruption data available
		Time 1	Time 2	
Portugal	1,880	—	243	10
Russian Federation	510	—	—	9
Singapore	—	—	58	10
South Africa	—	349	518	10
Spain	196	600	1,202	10
Sweden	—	1,128	1,304	9
Switzerland	—	951	1,160	10
Taiwan	544	—	71	10
Thailand	—	80	—	10
Turkey	—	106	62	10
United Kingdom	—	3,236	3,731	10
United States	1,389	3,967	—	10
Uruguay	—	175	27	7
Venezuela	—	217	318	10
Yugoslavia	1,120	—	248	3
Zimbabwe	312	—	—	7

Note. CPI = Corruption Perceptions Index. Dashes indicate unavailable data for the country. Sample sizes for the NEO by country are from McCrae (2001); sample sizes for cultural dimensions are from Hofstede (2001).

were standardized across countries (z scores), and an average was computed across the surveys for each country. However, in 2001, Procedure 2 was created to amend this standardization process so that the subset of countries included in a source would not bias the scores assigned. As a hypothetical example, if a source only provided data on the 20 most corrupt countries, approximately half of these countries would receive positive z scores. When integrating this survey of the most corrupt countries with others, this source could bias some of scores by assigning high positive z scores to countries that are, in reality, below average. Thus, under Procedure 2, the previous year's (2000) CPI scores for each country provided a starting point for calculating the 2001 scores. Then, average z scores across 2001 surveys were used to calculate standardized deviations from CPI 2000 scores. This technique was amended again in the 2002–2004 indices (Procedure 3) by using a matching percentiles procedure. In this procedure, the subset of countries for a given survey is ranked according to survey score and according to score on the previous year's CPI. To score the surveys, the previous year's CPI

score is assigned to the matching ranked survey score. For example, suppose 20 countries are sampled in a survey and Argentina has the 6th highest raw survey score. To calculate Argentina's CPI score for that year, the CPI scores of those 20 countries' scores would be listed and rank ordered. The previous year's rank order on the CPI scores would be matched to the current year's rank order of the survey scores. So, if Belgium had previously been ranked 6th on the CPI out of the 20 countries, Belgium's previous year's CPI score would be assigned to Argentina. These scores would then be averaged across surveys.³

To maximize our sample size, we calculated an average score across all years of the CPI (144 countries were included). On average, indices for 8.57 years were available for each country ($SD = 2.09$). Intercorrelating the 10 years of the CPI's publication showed strong correlations between years ($M = .97$, $SD = .02$), with an internal consistency reliability of $\alpha = 0.9968$. Some caution is warranted in interpreting this statistic and the correlations between years. First, because each year's CPI includes surveys from the past 3 years, there is some overlap between the surveys incorporated into adjacent years' CPI scores, inflating the average correlation between the years. For example, the Political and Economic Risk Consultancy 2001 survey is included in both the CPI 2002 and CPI 2003 scores. Second, the procedure to calculate scores used in the 2001–2004 indices creates country scores that are not independent from year to year. Nonetheless, correlations between years with no overlapping surveys (e.g., 1995 with years after 1997) are still extremely high ($r > .94$), even in the period from 1995 to 2000 when scores were independent. Thus, despite differences in the surveys used and in the method of calculating the overall CPI score, there is strong consistency in the ratings. Last, although high scores on the CPI indicate lack of corruption, we have reversed the signs of correlations and betas in the analyses that follow such that positive relationships indicate that the variable is associated with higher levels of corruption (and vice versa for negative relationships).

Revised NEO Personality Inventory (NEO-PI-R). The NEO-PI-R is one of the most commonly used measures of the Big Five in research, and it has been extensively studied and validated (Costa & McCrae, 1992). In addition, the NEO-PI-R is used throughout the world and has been translated into over 30 languages. Each of these translations has been back-translated and reviewed by test authors. McCrae (2001) provided composite T scores (based on U.S. norms) for means for 26 different cultures. These 26 cultures span five continents, although most cultures included come from

developed countries. Of these 26 cultures, 23 matched countries in our database and were analyzed in our results (see Table 2). Altogether, the sample sizes ranged from 112 in Hong Kong to 3,730 in Germany, with an average sample size of 986 for the 23 cultures used in our database. The samples used in collecting data come largely from college samples, although 14 cultures also included samples from normal adult populations, and college samples accounted for 48% of the total sample size. McCrae (2001) acknowledged that college samples may not be ideal in representing the culture as a whole; however, he also noted that collecting representative samples across 26 cultures is difficult, and, although perhaps not ideal, the 26 samples collected give a basis for contrasting cultures.

Cross-cultural researchers using the NEO-PI-R have begun to examine its equivalence across cultures and translations. McCrae (2001) described four studies with bilingual participants who completed the English version and another translation of the NEO-PI-R within a 1-week interval. These four studies produced a median correlation of .86 across the five factors and relatively few mean differences on factors between translations. Some research (Huang, Church, & Katigbak, 1997) has suggested that there may be differential item functioning between translations; however, McCrae (2001) has suggested that differences in response styles are likely to be limited and contribute only random error when examining large sets of cultures as we do in the present study. In addition, the NEO-PI-R has reliably generated five factors across translations and settings, although there is some variation in the loadings of the facets.

Research examining the correlates of national personality has received increasing attention in past years. McCrae (2001) presented national-level means on the NEO-PI-R and demonstrated their construct validity by calculating correlations with country-level scores for the EPQ and Hofstede's cultural dimensions. Hofstede and McCrae (2004) contrasted perspectives on the causal direction of the relationship between NEO national mean and cultural dimensions. In a recent article in *Science*, Terracciano et al. (2005) examined the relationship between national personality and national stereotypes. Thus, the use of these national mean personality scores is not only informative but also emerging as novel research field. Thus, the current use of national personality scores follows precedents established by this previous research.

Hofstede's cultural dimensions. Scores on the four cultural dimensions were taken from data sets provided in Hofstede (2001). Between 1967 and 1973, Hofstede (1980, 2001) surveyed the attitudes and values of over

117,000 IBM employees working locally in 72 different countries. Employees worked in a variety of occupations, ranging from division managers to sales and marketing employees to manufacturing technicians. Surveys were translated into 20 different languages, and third-party bilingual reviewers examined each of the translations for equivalence. Of the 72 countries that were surveyed, Hofstede (2001) selected the 50 countries with the most respondents in the widest breadth of occupations to include in calculating scores.

Of the initial 72 countries, a subset of countries were surveyed twice within a 4-year interval. Across this 4-year interval, countries showed stable mean scores on each of these dimensions (Hofstede, 1980). In addition, Hofstede (2001) described a number of replications of the study using smaller samples of countries; in general, these studies have confirmed the structure and country differences on the cultural dimensions observed with the IBM data set. Appendix 6 in Hofstede (2001) presents significant correlations of cultural dimensions with country level variables from over 120 sources since 1960. On the whole, 25 years of research using Hofstede's indices for the cultural dimensions support their validity as cultural indicators.

Wealth. The GDP per capita was collected for 211 countries from the Statistics Division of the United Nations. GDP per capita represents the total value of the goods and services per person produced within a country in a year and is an index of national wealth. Wealth was calculated for each country by averaging the GDP per capita values for the period from 1990–1999, a period roughly concurrent with the period of data collection for the NEO-PI-R and the CPI.

Religion. Our database also contained variables reflecting the percentages of countries' populations belonging to a particular religion. LaPorta, Lopez-de-Silanes, Shleifer, and Vishny (1999) classified information from multiple sources (Barrett, 1982; Central Intelligence Agency, 1996; *Statistical Abstract of the World*, 1995; United Nations, 1995; *World Encyclopedia of the Nations*, 1995) to estimate for each country the population percentages belonging to the three most widely spread religions: Roman Catholicism, Protestantism, and Islam. These three religions have been most commonly studied and discussed in conjunction with corruption, with Protestantism typically being negatively correlated with corruption (e.g., Lipset & Lenz, 1999; Paldam, 2001; You & Khagram, 2005). In addition, we also included the percentages of the population belonging to other religions. Religion data were available for 139–141 nations.

Data Analysis

First, although our database included 54 countries for which corruption data and either national personality or national culture scores were available, only a subset of these (23 countries) had data available for corruption, national personality, and national culture. As an approach for our data analysis, we followed a suggestion from an anonymous reviewer and created a separate database in which we imputed missing values for national personality and national culture using multiple imputation with an estimation maximization algorithm. In this multiple imputation, missing values for each variable are iteratively replaced on the basis of predicted values given scores on other observed variables (maximum likelihood estimation; Sinharay, Stern, & Russell, 2001). In imputing values, we supplemented national personality, national culture, wealth, and religion scores for each country with national scores on the EPQ from Steel and Ones (2002). Note that national culture was not used in imputing national personality and culture scores, as this could potentially artifactually increase these predictors' correlations with the corruption criteria. In this imputed + observed data set, observed data accounted for 43% of nations' scores for the personality variables, 93% of the nations' scores for the cultural variables, and 96% of the scores for national religion variables (% Protestant and % other; all data were observed for % Catholic and % Muslim).

We conducted three sets of analyses. First, we examined zero-order correlations for each national-level variable in both the raw data set and the imputed data set. We then continued to examine the combined roles of national personality and national culture in predicting national corruption using the missing values imputed data set. Finally, we examined the role of both national personality and national culture in predicting corruption once key variables such as wealth and religiosity have been controlled.

Results

Table 3 presents zero-order correlations between the five factors, culture, wealth, religion, and corruption. Generally, correlations based on the imputed and observed data set followed the same pattern as correlations based only on observed data (correlations below the diagonal). Thus, we discuss general trends across both data sets, noting relevant deviations in the data sets where they occur.

First, as shown previously (Hofstede & McCrae, 2004; McCrae, 2001), many cultural dimensions were strongly correlated with national personality

Table 3
Country-Level Correlations With the Five Factor Personality
Factors as Assessed by the Revised NEO Personality Inventory

Factor	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Neuroticism	52.2	2.6	23	-37	-61	2.2	.15	-.17	.18	.51	.41	-.05	-56	.34	.11	-.05	.25
2. Extraversion	44.9	4.0	-.12	23	.57	-61	-34	.51	-.25	-47	.18	.32	.51	.22	.06	-72	-.09
3. Openness	51.1	2.7	-.19	30	23	-50	-35	.44	-.04	-65	-.04	.27	.39	.01	-.17	-.19	-.25
4. Agreeableness	51.2	3.0	-.20	-.52	-.17	23	.47	-.09	-.23	.40	-57	-.06	.03	-51	.26	.41	-.20
5. Conscientiousness	49.4	2.9	-.21	-.24	-.28	50	23	-.17	-.03	.43	-.24	-61	-.13	-.05	.04	.13	.37
6. Individualism	43.9	25.8	-.03	.61	.43	-.25	-30	50	.07	-68	-36	.74	.47	-.14	-.17	-.08	-73
7. Masculinity	48.9	18.8	.40	-31	-.12	-.13	-.13	.07	50	.05	-.02	.03	-44	.17	-.03	.17	.16
8. Power distance	56.0	21.9	.12	-41	-.40	.51	.64	-67	.06	50	.26	-.64	.22	.16	.01	.01	.69
9. Uncert.–avoid.	65.9	24.9	.54	.24	.18	-63	-44	-35	-.03	.24	50	-30	-43	.39	-.07	-.09	.42
10. Wealth	6,387.4	8,987.6	.15	.34	.49	-.22	-69	.73	.00	-62	-.26	.44	.49	-.19	-.26	.03	-85
11. % Protestant	11.6	21.0	-60	.59	.36	-.13	.22	.53	-39	-55	-48	.44	.739	-39	-.21	-.17	-55
12. % Catholic	30.9	36.3	.41	.35	.14	-.27	-.04	-.20	.15	.24	.48	.09	-.13	.47	-38	-65	.23
13. % Muslim	23.8	35.8	-.11	-.20	-37	.46	.44	-.21	-.05	.20	-.05	-.24	-32	-50	.141	-.1	.27
14. % Other religion	33.7	32.8	.03	-75	-.29	.22	.04	-.02	.16	-.01	-.17	-.13	-.18	-48	-.28	.739	-.03
15. Corruption	4.2	2.2	-.07	-30	-.25	-.07	.53	-72	.15	.69	.40	-86	-50	-.07	.28	.08	.144

Note. Correlations based only on observed data are presented below the diagonal; correlations based on imputed + observed data are presented above the diagonal. Sample sizes for observed data are presented (italicized) in the diagonal, for imputed + observed data. *N* = 54 for all correlations; for correlations using only observed data, *N*s ranged from 23 to 144. Correlations with an absolute value greater than .30 are boldfaced. Openness = openness to experience; Uncert.–avoid. = uncertainty–avoidance.

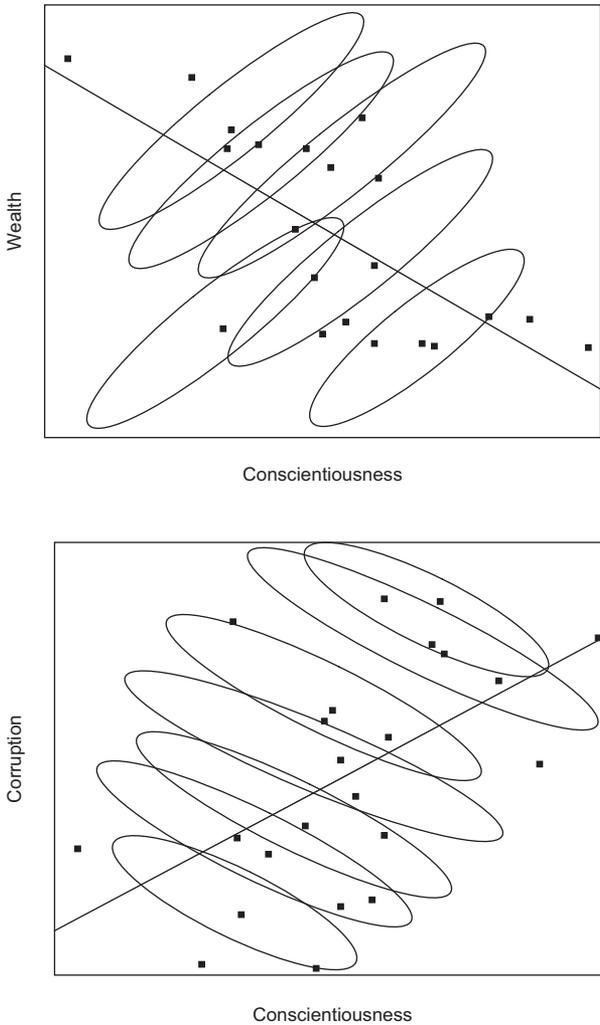
means. Countries whose citizens were higher in neuroticism had cultures higher in uncertainty–avoidance, likely reflecting heightened experiences of anxiety among those citizens. Nations high in extraversion and openness tended to be higher in individualism and lower in power distance, suggesting that such cultures likely have greater accessibility to experience ideas and socializing with others. Finally, nations high in agreeableness and conscientiousness were higher in power distance, reflecting stronger obedience to social institutions within these nations.

In predicting corruption, Table 3 shows corruption to be related to national personality. Namely, countries that are high on conscientiousness and low on openness to experience tend to be more corrupt. In addition, the imputed data set also shows mean neuroticism to be a strong predictor of national corruption. Furthermore, the zero-order correlation from the observed data set suggests that introverted nations may be less corrupt.

This finding of a positive relationship between national-level conscientiousness and national corruption is surprising, given the research showing negative relationships of individual-level conscientiousness with CWBs (Berry, Ones & Sackett, 2007; Clarke & Robertson, 2005; Salgado, 2002) and white-collar crime (Collins & Schmidt, 1993). Similarly, national levels of openness to experience showed negative relationships with national corruption, in contrast to the null findings at the individual level (Collins & Schmidt, 1993; Salgado, 2002). Thus, as noted earlier, relationships observed at the national level may not necessarily mimic those observed at the individual level. Figure 1 illustrates theoretically how this phenomenon might occur. In the figure, dots indicate national means, and ovals indicate hypothetical relationships within countries. A hypothetical regression line has been fitted showing the relationship between national conscientiousness and national wealth/corruption. Note that in the figure, conscientiousness shows positive relationships for predicting wealth within countries (i.e., at the individual level), but the set of distributions forms a negative relationship between conscientiousness and wealth at the national level. Thus, correlations within a country (the ovals) can have the opposite sign of associations across countries (the regression line through the dots). Similarly in the figure, for corruption, conscientiousness has a negative relationship within countries, but at the national level, conscientiousness has a positive relationship. Later, we examine possible reasons for this disparity across levels in an attempt to understand these unexpected associations.

As found previously in Husted (1999), several cultural dimensions relate to corruption. Countries that are collectivistic, high in power distance, and

Figure 1
Integrating Findings from Individual- and National-Level Studies
of the Relationships of Conscientiousness With Wealth and
Corruption. Dots Indicate National Means, and Ovals Indicate
Hypothetical Relationships Within Countries.



high in uncertainty avoidance tend to be more corrupt. Hofstede (2001) presented correlations of the four cultural dimensions with the 1998 CPI; however, for uncertainty-avoidance (and uncertainty-avoidance only), he described the oppositely signed association between the dimension and corruption (i.e., that countries low in uncertainty-avoidance have higher rates of corruption). Our database, however, supports the conclusions reached by Husted (1999).

To determine the joint impact of personality factors and cultural dimensions, we conducted a series of regression analyses using the imputed + observed data set (see Table 4). Note that, because of the small sample size, caution is warranted in interpreting beta weights of these regression models; however, the sample size affords adequate comparisons of adjusted multiple R s (Cohen, West, Aiken, & Cohen, 2002). In the first model, the five-factor personality factors were entered together to predict corruption, producing an adjusted multiple R of .59. These data suggest that national-level introversion, high openness, and high conscientiousness are the personality factors most closely associated with corruption. Also, in the multiple regression, agreeableness emerges as a suppressor variable; although its zero-order correlation with corruption is somewhat smaller (imputed data $r = -.20$), it has a high negative beta weight ($\beta = -0.56$), and removing it from the model reduces the adjusted multiple R from .59 to .40. In the second model, the cultural dimensions produced an adjusted multiple R of .79. Consistent with zero-order correlations, collectivism and power distance were both related to higher rates of corruption.

For a comparison of the relative effects of personality and culture in predicting corruption, corruption was regressed on both personality and culture. Together, culture and personality produced an adjusted multiple R of .88. The incremental increase in the adjusted multiple R from adding culture to personality ($\Delta R_{Adj.} = .29$) is more than when personality is added to culture ($\Delta R_{Adj.} = .09$), suggesting that cultural dimensions may provide more unique information about corruption than national levels of personality. However, these results show that national personality predicts unique variance in corruption beyond national culture, suggesting that national personality plays a unique but important role in psychological research on national corruption.

Finally, in Table 3's zero-order correlations, wealth and religion were strongly associated with corruption. Specifically, countries with less wealth and lower proportions of Protestants tended to be more corrupt, whereas countries with higher proportions of Catholics and Muslims tended to be slightly more corrupt (however, the relationships between corruption and the percentage of Catholics and Muslims dissipated after wealth was controlled

Table 4
Regression Models Predicting Corruption from Big Five Factors, Personality, Culture, Wealth, and Religion

Variable	Model 1: Personality (<i>df</i> = 48)			Model 2: Culture (<i>df</i> = 49)			Model 3: Personality, Culture (<i>df</i> = 44)			Model 4: Culture, Personality (<i>df</i> = 44)			Model 5: Wealth, Religion, Personality (<i>df</i> = 47)			Model 6: Wealth, Religion, Culture (<i>df</i> = 48)				
	No.	Adj. <i>R</i> ²	β	No.	Adj. <i>R</i> ²	β	No.	Adj. <i>R</i> ²	β	No.	Adj. <i>R</i> ²	β	No.	Adj. <i>R</i> ²	β	No.	Adj. <i>R</i> ²	β		
Wealth																				
Religion (%)																				
Protestant																				
Catholic																				
Muslim																				
Big Five	1	.59		1	.59		1	.59		2	.88		3	.87		1	.85		2	.86
Neuroticism			.14																	
Extraversion			-.23																	
Openness			-.15																	
Agreeability			-.56																	
Conscientiousness			.55																	
Culture	1	.79		2	.88		1	.79		2	.88		1	.79		3	.89			
Individualism			-.44																	
Masculinity			.18																	
Power distance			.33																	
Uncertainty-avoidance			.19																	

Note. # Indicates the step in which the set of predictors was entered. β s reflect the beta weights of each final regression model. Models 3-6 have very small degrees of freedom compared with the number of predictors; thus, beta weights for these models should not be interpreted and are included here for the sake of completion.

for). Because we were also interested in the contribution of national-level psychological variables to predicting national corruption beyond these central economic and demographic variables, regression models 1 (national personality alone) and 2 (national culture alone) were repeated, with wealth and religion used as control variables. In model 5, showing the results of adding national personality, note that the adjusted multiple R increases when the five national personality variables are added. Note also that the beta weight for conscientiousness shows a large decrease (from $\beta = 0.55$ to $\beta = 0.09$) after wealth and religion was controlled for. This effect also occurs when only wealth is controlled for, suggesting that the effects of conscientiousness on corruption may be explained by the relationship between conscientiousness and national wealth. In model 6 (national culture controlling for wealth and religion), the increase in adjusted multiple R suggests that Hofstede's four cultural dimensions also increment wealth and religion. In a manner similar to that of conscientiousness, the positive relationship between collectivism and corruption drops to near zero once wealth is controlled for, suggesting that wealth explains this relationship as well.

We also examined the contribution of religion beyond both national personality scores and national culture scores. When religion was added to national personality, the adjusted multiple R increased from .59 to .73. However, when religion was added to national culture, the increase in prediction was quite small (from $R_{Adj.} = .79$ to $R_{Adj.} = .81$). This finding is concurrent with Lipset and Lenz's (1999) suggestion that the relationship between religion (particularly Protestantism) and corruption may be explained by national differences in cultural values (particularly individualism and power distance).

Discussion

Previous research on the antecedents of corruption has been limited almost entirely to economists and political scientists. Thus, despite the likely relevance of psychological variables in predicting corruption, these variables have remained comparatively unexamined. In this study, we examined the relationships between personality, culture, and corruption at the national level.

First, nations low in openness and high in neuroticism tended to be more corrupt. At the individual level, openness is associated with endorsing politically liberal and nontraditional values (Connelly, Davies, Ones, & Birkland, 2008). Nations whose citizens tend to endorse such values would

likely find their citizens to be more supportive of legislation aimed at curbing corruption. For neuroticism, the causal path is somewhat less clear. On one hand, given neuroticism's link to interpersonal and organizational CWBs (Berry et al., 2007), the relationship at the national level may simply be the result of the aggregate of the individual-level phenomena. On the other hand, it may be that a nation's corruption has negative effects on individuals' health and well-being.

In addition, results from zero-order correlations and regression analyses suggest that extraversion was negatively related to corruption. This may be because individuals in nations higher in extraversion are less submissive (Hofstede & McCrae, 2004) and are, therefore, more prone to reporting observed instances of corruption. This may mean that more extraverted nations have more whistle-blowers, closer interpersonal interactions, and more critical and vocalized media and journalists who force those in power to be more accountable for their actions. Alternatively, the direction of causality could point the opposite way: Corruption could cause individuals to become more withdrawn and introverted. The emergence of agreeableness as a suppressor variable is also interesting: Although agreeableness does not relate directly to corruption, it eliminates irrelevant variance in the other factors. Thus, variance in national levels of other traits that is associated with national agreeableness is unrelated to predicting corruption.

Given the mass of research showing negative individual-level relationships between conscientiousness and CWBs (Berry et al., 2007; Collins & Schmidt, 1993; Salgado, 2002), the relationships observed at the national level for conscientiousness with corruption (positive) and wealth (negative) is particularly perplexing. Previous researchers (Steel & Ones, 2002) have also observed this negative relationship of national conscientiousness with national wealth. They suggested that this may be an artifact from sampling college students for measuring national averages on the NEO-PI-R: In poorer countries, only students high on conscientiousness can enroll in college. If this is the case, national conscientiousness would be confounded with wealth (in contrast, no confounds of the national scores of other personality traits are apparent from the incorporation of college samples).⁴ Thus, there may indeed be homology across levels for the relationship between conscientiousness and wealth that is simply concealed by this measure of national conscientiousness. Note again that the relationship between conscientiousness and corruption dissipates after controlling for wealth. If the measure of national conscientiousness is indeed largely confounded with national wealth, this dissipation of the relationship between national conscientiousness and

national corruption would be expected once national wealth is controlled for. Clearly, the nature of this relationship merits further research using more representative within-nation samples. There may still be additional effects at higher levels that affect the relationship between conscientiousness and corruption, but conscientiousness scores from additional samples are needed before such conclusions can be embraced.

Hofstede and McCrae (2004) contrasted viewpoints about the relative roles of personality and culture in determining the characteristics of societies. However, little research has compared or examined the joint effects of national personality and national culture in predicting an external criterion. Cultural dimensions' zero-order and combined relationships with corruption were somewhat stronger than those of national personality. However, the analyses here suggest that both national personality and national culture provide unique information in predicting national corruption. This finding has an important implication: Although globalization may promote an increased exchange of cultural values related to corruption, this may have little effect on corruption compared with the effect of the relatively stable personalities of nations' populaces. Future research should continue to examine these effects with additional criteria to determine how broadly and with what sets of variables this effect will replicate.

As one reviewer pointed out, there is likely considerably more variability in personality and values within a nation than across nations. This certainly means that individuals within a given nation do not all behave similarly, particularly in the case of corruption. However, as the variability within nations increases, correlations between national means would correspondingly decrease as it becomes more difficult making meaningful distinctions between nations. Finding these aggregate correlations between national personality and national culture, as well as in predicting national corruption in the face of such broad within-country variance in personality and values, attests to the meaningfulness and predictive power of these national-level differences.

In interpreting these findings, there are several limitations. First, as discussed earlier, the results observed here may have been constrained by the use of a college samples in collecting mean scores of national personality traits. Whereas college samples may be relatively representative of the general population in the United States, this is unlikely to be true in other countries with less access to higher education opportunities. This study also used perceptions of national corruption as the criteria. Although this measure incorporated data from many independent sources that generally reflected strong agreement, it is possible that actual rates of corruption deviate from these

perceptions. Thus, if data on actual national rates of specific corporate and government crime become available, future research should examine (a) how closely perceptions of corruption overlap with real rates and (b) whether the relationships with national personality and culture change when examining real rates. In addition, these analyses included only a convenience sample of a subset of the world's countries. In particular, few national personality and culture scores were available for countries in some of the most corrupt areas of the world. Thus, because of this range restriction in the criterion, the relationships observed are likely to be lower-bound estimates of the true relationships. As data continue to be accumulated, a larger sample may allow for greater generalizability of these findings. Last, other levels of analysis (e.g., organizational or work group levels) may reveal different relationships between personality and corruption. Future research should also explore the personality–corruption relationship at additional levels of analysis.

These limitations notwithstanding, this research report expands current understanding of the antecedents of corruption to include national personality traits. Specifically, extraversion was negatively related to corruption, perhaps because individuals in nations high in extraversion are less likely to be submissive in responding to a supervisor's corruption. Moreover, national personality provided unique prediction beyond cultural values in understanding corruption. These effects are likely to have important implications for organizations. First, this study on the effects of personality on corruption aggregated at the national level is likely to have implications for studying the relationship between organizational-level personality and organizational corruption. Thus, researchers and practitioners alike who are interested in curbing organizational corruption should attend to both the personality composition of employees within the organization and the organizational values at play. Second, as globalization continues to promote the exchange of cultural values, these findings highlight the need to consider national personality in designing human resource systems for psychologists who work in and study organizations that span across national boundaries. Thus, attending to such differences in national personality traits may provide avenues to developing organizational practices that are more effective at limiting the corruption within organizations.

Appendix

Characteristics of Surveys Incorporated in the 1995–2004 Corruption Perceptions Index

Organization	Source	Years administered	Yearly sample/size	No. of countries	Subject	Years in CPI
Business International		1980	Staff of journalists	68	Degree to which transactions involve corruption or questionable payments	1995-1996
Columbia University	State Capacity Survey	2001-2003	224-251 country experts (U.S.)	95-121	Severity of corruption within the state	2002-2004
DRU/McGraw-Hill	Global Risk Service	1997	Expert staff	106	Losses and costs due to corruption	1997
Economist Intelligence Unit	Country Risk Service and Country Forecast	1998-2004	Expert staff (expatriates)	115-142	The misuse of public office for private gain	1998-2004
Freedom House	Nations in Transit	1998, 2000-2004	Experts (U.S., regional, and in-country experts)	27-28	Extent of corruption as practiced in governments, as perceived by the public, and as reported in the media, as well as the implementation of anticorruption initiatives	1999-2004
Gallup	50th Anniversary Survey	1997	34,000 in the general public	44	A lot, many, few, or no cases of corruption for politicians, public officials, policemen, and judges	1997-1999

(continued)

Appendix (continued)

Organization	Source	Years administered	Yearly sample/size	No. of countries	Subject	Years in CPI
Gallup International/Transparency International	Corruption Survey	2002	835 Senior business people	21	How common are bribes to politicians, senior civil servants, and judges, and how significant an obstacle are the costs associated with such payments for doing business?	2002-2004
Goettingen University	Internet Corruption Perception Index	1997	246 Internet users	71	Are public officials often, sometimes, or rarely asking for bribes?	1997
Information International	Survey of Middle Eastern Businesspeople	2003	165 Senior businesspeople from Bahrain, Lebanon, and United Arab Emirates	31	How common are bribes, how costly are they for doing business, and how frequently are public contracts awarded to friends and relatives in neighboring countries?	2003-2004
International Institute for Management Development	World Competitiveness Yearbook	1992-1994, 1996-2004	2,515-4,166 Executives in top and middle management; domestic and international companies	46-51	Bribing and corruption exist in the public sphere/economy	1995-2004

(continued)

Appendix (continued)

Organization	Source	Years administered	Yearly sample/size	No. of countries	Subject	Years in CPI
International Working Group	International Crime Victim Survey	1997, 2000	20,000-40,000 in the general public	11	During 1995, has any government official, for instance a customs officer, police officer, or inspector in your own country, asked or expected you to pay a bribe for his services?	1999, 2000
Merchant International Group	Grey Area Dynamics	2004	Expert staff and network of local correspondents	155	Corruption, ranging from bribery of government ministers to inducements payable to the "humblest clerk."	2004
Political & Economic Risk Consultancy	Asian Intelligence Newsletter	1997-2004	280->1,000 Expatriate business executives	12, 14	How bad do you consider the problem of corruption to be in the country in which you are working as well as in your home country?	1997-2004
Political Risk Service	Bank Executives Survey Expert Staff Survey	1992-1994 1988, 1998	60 Senior executives of banks Expert staff	10 128	Levels of corruption Likelihood to demand special and illegal payments in high and low levels of government	1995-1996 1996, 1998
	International Country Risk Guide	2000	Expert staff	140	Assessment of "corruption in government"	1999-2000

(continued)

Appendix (continued)

Organization	Source	Years administered	Yearly sample/size	No. of countries	Subject	Years in CPI
PriceWaterhouse Coopers (PwC)	Opacity Index	2001	1,357 Chief financial officers, equity analysts, bankers and PwC staff	34	Frequency of corruption in various contexts (e.g., obtaining import/export permits or subsidies, avoiding taxes)	2000-2003
Unnamed	A multilateral development bank survey	2002	398 Experts within the bank	47	How widespread is the incidence of corruption?	2003-2004
Wall Street Journal, Central European Economic Review	Annual survey	1997	Business analysts in Europe and United States	26	Effect of corruption on attractiveness of country as a place to do business	1999
World Bank	World Business Environment Survey	2001	10,900 Senior managers	79	Frequency of bribing and "corruption as a constraint to business"	2000-2003
	World Development Report, Private Sector Survey	1997	3,500 Business executives	73	Irregular, additional payments are common and represent an obstacle to doing business	1998-1999

(continued)

Appendix (continued)

Organization	Source	Years administered	Yearly sample/size	No. of countries	Subject	Years in CPI
World Bank/ European Bank for Reconstruction and Development (ERBD)	Business Environment & Enterprise Performance Survey (BEEPS)	1999, 2002	3,000/6,500 Senior business people	20/25	Frequency of irregular additional payments; how problematic is corruption for business?	2000, 2003-2004
World Economic Forum	Global Competitiveness Report	1996-2004	1,537-8,700 Senior business leaders	40-104	Undocumented extra payments connected with various government functions	1998-2004
	Africa Competitiveness Report	1998, 2000	582/1,800 senior business leaders	20/26	How problematic is corruption? Are irregular, additional payments required? In large amounts?	1999-2002
World Markets Research Center	Risk ratings	2002, 2004	Expert staff	186	The likelihood of encountering corrupt officials, ranging from petty bureaucratic corruption to grand political corruption	2003-2004

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Notes

1. The correlations observed could potentially be interpreted in the opposite causal direction; that is, aspects of culture result from corruption. For example, it may be that corrupt acts increase the power distance in countries by creating greater inequality or that the corruption of a country's leaders causes its citizens to become more fearful and anxious and, thus, higher on uncertainty–avoidance.

2. Hereinafter, we use ρ to indicate correlations that have been corrected for range restriction and unreliability in both predictor and criterion.

3. Lambsdorff (2004) pointed out that successive iterations of this procedure would cause the variance in CPI scores to become smaller and smaller from year to year. To prevent this and to maintain comparability across years, we adjusted these scores using a beta-transformation procedure designed to equate each year's standard deviation with those of previous years (for a description of this transformation, see Lambsdorff, 2004).

4. At the suggestion of one reviewer, we attempted to test how using college samples might have affected the relationship between national means on conscientiousness and wealth. We created two additional variables in our observed only data set: one dummy-coded variable of whether college samples were used in calculating the national means and one continuous variable reflecting the percentage of each country's NEO sample that was drawn from a college population. We then tested each variable as a control variable (Do the relationships between conscientiousness, wealth, and corruption weaken or reverse once college sample use was controlled?) and as a moderator (Is the relationship between conscientiousness and wealth/corruption different for countries for which the NEO sample used college students vs. countries for which the NEO sample used only adult samples?). Across all analyses, we found that these relationships did not change once NEO college sample use was incorporated. However, given the particularly small number of countries in our observed-only data set, the power to detect such a moderator is quite low, and this potential explanation is likely best answered as more and improved sampling across and within countries becomes available.