

NATIONAL DIFFERENCES IN ORGANIZATIONAL COMMITMENT

Effect of Economy, Product of Personality, or Consequence of Culture?

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This article examines organizational commitment in a sample of 49 countries. Affective commitment (AC) varies significantly by country and is strongly related to dimensions of personality. AC is high in countries where the population is extravert and low in countries where the population is neurotic. Consistent with the notion that high extraversion and low neuroticism are indicative of positive affect, AC is also found to be high in countries where the population is happy. Socioeconomic conditions have a statistically significant but marginal influence on AC. AC tends to be slightly higher in countries with low levels of unemployment and high economic activity rates but is unrelated to per capita national income. There are significant relationships between AC and some aspects of national culture. AC is negatively related to societal cynicism and positively to egalitarian commitment. In general, however, most cultural dimensions are unrelated to AC.

Keywords: personality; employee attitudes; national culture; values; organizational commitment

Organizational commitment has been defined as “the relative strength of an individual’s identification with and involvement in a particular organization” (Mowday, Porter, & Steers, 1982, p. 27) and a “psychological link between an employee and his or her organization that makes it less likely that the employee will voluntarily leave the organization” (Allen & Meyer, 1996, p. 252).

Organizational commitment is of considerable interest to psychologists because there is strong evidence of links between high levels of commitment and favorable organizational outcomes. At the individual level of analysis, commitment predicts important employee behaviors such as staff turnover, absenteeism, organizational citizenship or extra-role behaviors, and performance (Allen & Meyer, 1996; Mathieu & Zajac, 1990; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002; Steers, 1977). Furthermore, when aggregated to the organizational subunit level, high levels of commitment are associated with elevated levels of customer satisfaction and sales achievement (e.g., Gelade & Young, 2005).

Our present understanding of organizational commitment derives almost entirely from analyses at the individual, organizational subunit, or organizational levels. Few studies have examined commitment as a culturally influenced construct or have attempted to quantify and account for national differences in commitment levels. However, with an increase in corporate employment in many parts of the world, many corporations now operate cross-nationally and employ a multinational workforce. Studying national variations in organizational commitment will therefore have practical implications for organizations seeking to maximize commitment levels among employees differing widely in experiences, expectations, and cultural backgrounds.

The aim of this article is to examine organizational commitment in a wide range of countries and to explore its links with cultural and socioeconomic variables and with national measures of personality. The rest of this article is organized as follows. First, we review the empirical evidence on the individual-level antecedents of organizational commitment. Next, we discuss aggregation issues and then consider the theoretical linkages between commitment and a range of national-level variables. Finally, we describe the method and present the results and conclusions.

ANTECEDENTS OF ORGANIZATIONAL COMMITMENT AT THE INDIVIDUAL LEVEL

The traditional view of organizational psychology has been that employee attitudes such as organizational commitment are cognitive assessments that reflect characteristics of the work environment. For example, an individual's commitment to his or her organization has been linked to factors such as job challenge, equitable treatment, and the perceived availability of alternative employment opportunities (Allen & Meyer, 1990) and to job scope, job tenure, job level, and leadership behaviors (Mathieu & Zajac, 1990).

The role of affective dispositions in shaping an individual's work-related attitudes is now becoming increasingly accepted by organizational psychologists. After years of research in which attitudes were regarded primarily as a function of the objective or perceived work environment, individual differences in affective disposition are now thought to play an important role in determining how people view their working lives (Barsade, Brief, & Spataro, 2003). According to the integrated model of attitudes described by Brief (1998), work-related attitudes depend on both objective circumstances and individual dispositional characteristics such as positive and negative affectivity.

Support for the role of affect as an antecedent of work attitudes comes from studies that measure both the attitudes and the affective dispositions of individuals. In a meta-analysis of 205 such studies, Thoresen, Kaplan, Barsky, Warren, and de Chermont (2003) found significant true-score correlations between work attitudes, and dispositions and personality traits. For example, job satisfaction correlated .33 with trait positive affect and $-.37$ with trait negative affect. Extraversion, a personality trait associated with positive affect, correlated .22 with job satisfaction and .22 with organizational commitment; and neuroticism, a personality trait associated with negative affect, correlated $-.28$ with job satisfaction and $-.23$ with organizational commitment. In a second meta-analytic study, Judge, Heller, and Mount (2002) found job satisfaction correlated .25 with extraversion and $-.29$ with neuroticism. In summary, individuals high in positive affect (e.g., extraverts) tend to be more committed and to express more favorable attitudes to their work, and individuals high in negative affect (e.g., neurotics) tend to be less committed and to express less favorable attitudes to their work.

LEVELS OF ANALYSIS AND AGGREGATION

In this article, we are concerned with nations rather than individuals. Since Robinson (1950) first discussed the "ecological fallacy," it has been well known that relationships between variables at aggregate levels of analysis may or may not be the same as those observed at the individual level. However, as pointed out by Steele and Ones (2002), if no new phenomena are introduced by aggregation, aggregate-level correlations will differ from individual-level correlations only to the extent that measurement error is smaller for

the aggregate variables. McCrae and Terraciano (in press) demonstrated this phenomenon by dividing a sample of individual-level personality scores into random groups and showing that the individual-level factor structure of the data was replicated at the aggregate level. Aside from inflation because of measurement error effects, differences between aggregate- and individual-level correlations are thus indicative of group-level phenomena. Such phenomena can of course only develop in real groups such as nations or organizations and not random ones. In Schwartz's (1999) telling illustration, the values of humility and social power are negatively correlated at the individual level (because most individuals seek either one or the other) but are positively correlated at the national level (because in hierarchical societies, both are necessary).

Aggregation is common in cross-cultural psychology. Despite A. P. Fiske's (2002) admonition that aggregating individual scores to the group level cannot produce measures of culture, the cultural dimensions identified by Hofstede, Schwartz, and others are derived from such aggregate scores. Aggregation is also common in organizational research. Thus, Schneider, Bowen, Ehrhart, and Holcombe (2000) could cite a body of research showing that "job satisfaction and commitment surveys when aggregated to the unit level . . . reveal significant relationships with customer satisfaction" (p. 32).

In contrast, aggregation of personality traits to levels beyond the individual is still controversial. According to Steele and Ones (2002), many economists and sociologists are dogmatically opposed to the concept of national personality. Is personality thereby ruled out as a potential antecedent of commitment at the national level? We suggest not. Personality traits, when aggregated to the national level, do have meaningful correlations with other national-level variables such as living standards (Lynn & Martin, 1995), happiness (Steele & Ones, 2002), and values (Hofstede & McCrae, 2004). Furthermore, Allik and McCrae (2004) have shown that geographically proximate cultures often have similar personality profiles and that Asian and African profiles differ systematically from European and American ones. It is therefore reasonable to conclude that at least some personality traits are meaningful constructs at the national level. However, to avoid confusion with related concepts such as national stereotypes, national character, and so forth, we adopt the suggestion of McCrae and Terraciano (in press) and use the term *aggregate personality* to refer to the mean personality trait scores for a group such as a culture or nation. Leung and Bond (2004) use the term *citizen mean* to describe aggregate variables of this type.

THEORETICAL LINKAGES OF COMMITMENT AT THE NATIONAL LEVEL

Allen and Meyer (1990) distinguish three types of commitment, labeled affective, continuance, and normative commitment. They define affective commitment (AC) as "an affective or emotional attachment to the organization such that the strongly committed individual identifies with, is involved in, and enjoys membership in the organization" (p. 2). Employees who are affectively committed to their organization thus stay with their organization because they want to. Continuance commitment is based on employees' calculations of the costs entailed in leaving their organization; employees with strong continuance commitment stay because they have to. Finally, normative commitment is based on employees' feelings of obligation to their employer; employees with strong normative commitment stay because they feel they ought to.

From a cross-cultural perspective, all three components of commitment are of interest, but we are here limited to consideration of AC because there were simply no measures for the other components in the data available to us. We may envisage at least three possible

sources of national differences in AC: socioeconomic conditions, culture, and aggregate personality. In the following sections, we propose nine hypotheses linking national levels of AC to these three factors.

LINKAGES TO SOCIOECONOMIC CONDITIONS

In countries where incomes are low, unemployment is high, a small proportion of the population is economically active, and employment fulfils basic survival and material needs, we would expect employees to remain with their employers because employment opportunities are scarce and they have little choice to do otherwise. In more economically developed countries, however, individuals have greater freedom to choose the type of organization they work for and the type of work they do and, in this way, to find congenial employment that fulfils their higher order needs for self-esteem, perceived competence, and so forth. This should theoretically lead to greater enjoyment of organizational membership in richer countries and to stronger affective ties between employees and organizations. Thus, we predict the following:

Hypothesis 1: AC will be higher in countries with higher per capita gross national income (GNI).

Hypothesis 2: AC will be higher in nations with lower levels of unemployment and higher economic activity rates.

LINKAGES TO CULTURE

Schwartz (1999) suggested that national differences in work-related attitudes could be predicted from national differences in cultural values. Following this suggestion, we explore potential links between AC and several cultural dimensions.

Hofstede's (2001) theory of national values posits four cultural dimensions, called power distance, individualism, uncertainty avoidance, and masculinity. Intuitively, we would expect that individualism, which measures the extent to which group identity and cohesion are practiced and valued in a society, would have a negative association with AC. According to Hofstede (2001), in individualistic societies, "the ties between individuals are loose," and everyone is expected to fend for themselves and their immediate families; conversely, in collectivist societies, people are "integrated into strong cohesive in-groups which . . . protect them in exchange for unquestioning loyalty" (p. 225). We might expect that individuals in collectivist societies will express a stronger degree of identification with their organizations than those in individualistic societies. Therefore, we predict the following:

Hypothesis 3: AC will be higher in collectivist than in individualist nations.

In a study of social axioms (generalized beliefs about the self and society), Bond et al. (2004) discovered two cultural dimensions called dynamic externality and societal cynicism. Cynical societies are characterized by a "general mistrust of social systems and other people" (p. 551), and in such societies, we might expect employees to distrust the motives of their employers. For instance, they might interpret the employment contract as an instrument of exploitation. Thus, we predict the following:

Hypothesis 4: AC will be lower in nations characterized by higher levels of societal cynicism.

Smith, Dugan, and Trompenaars (1996) identified two bipolar dimensions of culture called utilitarian versus loyal involvement and conservatism versus egalitarian commitment. In utilitarian cultures, group involvement is based primarily on utilitarian considerations, and

in loyal cultures, it is based on in-group loyalty. The utilitarian view holds, for example, that companies exist only to make profits. The loyal view, on the other hand, holds that companies also have responsibilities to maintain the well-being of their employees. In utilitarian cultures, we would expect employees to espouse a calculative attitude to organizational membership, whereas in loyal cultures, we might expect employees to form more affective bonds with their organizations. We predict the following:

Hypothesis 5: AC will be higher in nations characterized by higher levels of loyal involvement.

Conservative cultures are distinguished from egalitarian ones by being, among other things, more paternalistic. In conservative cultures, employers are expected to maintain a “strong and long-term involvement . . . in many aspects of the employee’s life” (Smith et al., 1996, p. 250). Employers are expected, for example, to provide company housing and to pay employees with large families more. Concern for employee welfare is seen as a duty and routine element in the employer-employee relationship, and we might suppose that the discharge of an employer’s social duty in accordance with expectations is unlikely to elicit an affective response. In egalitarian societies, however, the provision of benefits by an employer, who is not normatively required to provide them, is more likely to produce reciprocal feelings of gratitude from employees and hence to strengthen their affective links to the organization. We therefore predict the following:

Hypothesis 6: AC will be high in egalitarian nations.

Schwartz (1994) identified a taxonomy of seven cultural value types, called conservatism, intellectual autonomy, affective autonomy, hierarchy, egalitarianism, mastery, and harmony. As defined by Schwartz, there are no particular reasons to expect any of these values to be predictive of AC. However, Smith et al.’s (1996) description of conservatism and egalitarian commitment suggests that Schwartz’s versions of these dimensions might also be linked to AC.

LINKAGES TO AGGREGATE PERSONALITY AND AFFECT

The idea that the human personality can be comprehensively described in terms of a small number of fundamental dimensions can be traced to Eysenck (1947), who proposed a four-level hierarchy relating personality and behavior. At the lowest level of the hierarchy lie specific behavioral acts, which may or may not be generally characteristic of the individual. At the next level lie habitual behaviors, whereas the next level consists of constructs called characteristics, scales, or facets, which represent constellations of habitual behaviors. At the highest level of the hierarchy lie the broad, genetically based factors of general personality type, which in Eysenck’s system are extraversion, neuroticism, and psychoticism. Extraversion is characterized by positive affect and neuroticism by negative affect. Thus, extraverts tend to experience more happiness than do introverts, whereas neurotics tend to experience more unhappiness than do non-neurotics (DeNeve & Cooper, 1998; Diener & Lucas, 1999; Lucas & Fujita, 2000; Schimmack, Oishi, Furr, & Funder, 2004).

Most personality theorists now accept Eysenck’s (1947) concept of a hierarchy of personality traits, although there is disagreement as to exactly how the highest level of the hierarchy should be represented and, in particular, how many distinct factors are needed at this level. The most influential alternative to Eysenck’s three-factor model is undoubtedly the five-factor model that has its origins in the work of D. W. Fiske (1949) and Tupes and Christal (1961) and that posits five, rather than three, fundamental personality factors. The

five factors are extraversion, neuroticism, agreeableness, conscientiousness, and openness to experience (e.g., McCrae & John, 1992).

Our national-level hypotheses relating work attitudes to personality derive directly from the well-established relationships at the individual level of analysis. As Smith (2004) has argued, taking a hypothesis from one level of analysis and applying it at another does not in itself constitute an ecological fallacy, provided the variables are tested at the appropriate level of analysis. Thus, we predict the following:

Hypothesis 7: AC will be higher in nations where aggregate extraversion is higher.

Hypothesis 8: AC will be higher in nations where aggregate neuroticism is lower.

Because extraversion and neuroticism imply, respectively, increased and decreased levels of happiness, we posit this supplementary hypothesis:

Hypothesis 9: AC will be higher in nations characterized by higher levels of happiness.

METHOD

MEASURES OF PERSONALITY AND AFFECT

National scores on the Eysenck (1947) personality factors (extraversion, neuroticism, and psychoticism) were obtained from van Hemert, van de Vijver, Poortinga, and Georgas (2002) and Steele and Ones (2002). Because the source data for these two meta-analytic studies partially overlap, the results were standardized and averaged to give a single set of scores for each country. In addition to the factor scales, Eysenck's personality questionnaire includes a lie scale designed to detect socially desirable responding. Eysenck never considered this to be a personality factor, but as previous studies have found national lie scale scores to correlate significantly with other national-level variables (Steele & Ones, 2002; van Hemert et al., 2002), we include the lie scale in the present analyses.

The standard instrument for measuring the factors of the five-factor model is the Revised NEO Personality Inventory (NEO-PI-R; Costa & McCrae, 1992). Country mean scores on the NEO-PI-R were taken from McCrae (2002), the scores for two Indian subcultures being combined to give a single set of scores for India.

A precondition for comparing personality measures at the national level is measurement equivalence (Drasgow & Kafner, 1985). For multiscale instruments such as the Eysenck personality questionnaire or NEO-PI-R, a minimum requirement for measurement equivalence of the instrument is identity of the factor structure within the relevant populations, indicating that a common universe of traits is being assessed. Also, the item-factor loadings should be the same in each population; in this way, the same pattern of trait levels will give rise to the same observed scores in all populations.

The available evidence suggests that a degree of measurement equivalence can be cautiously assumed for both the Eysenck personality questionnaire and the NEO-PI-R (Barrett, Petrides, Eysenck, & Eysenck, 1998; McCrae, 2002; van Hemert et al., 2002). Although full measurement equivalence of the NEO-PI-R across countries remains questionable (Poortinga, van de Vijver, & van Hemert, 2002), Steele and Ones (2002) and McCrae (2002) have argued perfect measurement equivalence is not an essential prerequisite for correlational analyses because many sources of nonequivalence, such as response sets and translation bias, tend to be unsystematic and to cancel out across countries.

We used two measures of positive affect. National happiness scores for the decade 1990 to 1999 were taken from Veenhoven (2005) and scores for the years 1981, 1990, and 1995 from the World Values Survey (Inglehart, 2005).

DIMENSIONS OF CULTURE

National measures of power distance, individualism, uncertainty avoidance, and masculinity were taken from Hofstede (2001), and national measures of Schwartz's seven value types were taken from Schwartz (1994). Societal cynicism and dynamic externality scores were taken from Bond et al. (2004), scores for French- and Dutch-speaking Belgians being combined, as were scores for East and West Germans. Scores for the loyal utilitarian versus involvement, and conservatism versus egalitarian commitment dimensions described in Smith et al. (1996) were kindly provided by Peter Smith.

SOCIOECONOMIC MEASURES

Per capita GNI in 2000 was taken from World Bank (2002) figures. Logarithmic GNI was used in the analyses. National unemployment rates, averaged during the years 1997 to 2003, were taken from the International Labour Organization (2005). Male economic activity rates (the proportion of the male population who are economically active) were taken from the United Nations Statistics Division (2005).

COMMITMENT MEASURES

National measures of AC were obtained from four sources labeled here A to D.

Data Set A was compiled by a commercial survey company for the purpose of determining international norms for a wide range of work-related attitude statements. Random samples of the working population were drawn from 16 countries, with country sample sizes ranging from 384 to 3,511 (*Mdn* = 409). Following an initial telephone call or letter, qualifying individuals were invited to complete a paper questionnaire consisting of about 180 questions. The AC items drawn from this survey were "I am proud to work for this organization," "I would recommend this organization to others as a good place to work," and "I feel a strong sense of commitment to this organization," all of which were scored on a 5-point Likert-type response scale. Standardized item alpha was .84 at the individual level and .95 at the country level. National scores for these data (AC-A) were calculated by averaging the scores on the three commitment items for each individual and then computing country means.

Data Set B was compiled by a second commercial survey company and contained data from client organizations, supplemented by random samples of working adults in countries where the client population was small. The data covered 36 countries, with a median sample size of 2,100. The commitment items drawn from these data were "I am proud to work for this organization," "I would recommend my organization to others as a good place to work," and "The organization I work for is a good employer." All items were scored on a 5-point Likert-type scale with higher numbers representing increasing degrees of favorability. Only country-level scores were available for this data set, so it was not possible to assess reliability at the individual level. The extent to which these three items comprise a psychologically coherent scale at the individual level therefore remains open to question. The country-level score for an item was the percentage of individuals who responded favorably (above the midpoint on the Likert-type scale) for that item. Here, national

commitment scores (AC-B) were calculated by averaging the scores for the three commitment items. Standardized item alpha at the country level was .82.

Data Set C was a survey of employees in 33 countries using a mixture of telephone, written, and face-to-face methods and with sample sizes per country ranging between 99 and 1,980 (*Mdn* = 487). The marketing company conducting this survey used a proprietary method of measuring commitment, and the items cannot be reported verbatim for confidentiality reasons. However, one item assessed involvement with the organization (“How important to you is belonging to this company?”), one item assessed overall satisfaction with the company (“Thinking about the ideal company you would like to work for, rate your company on a scale of 1 to 10”), one item assessed attitudes to alternatives (“This company is better, the same, or worse than other companies I could work for”), and one item assessed the degree of ambivalence (the degree to which the respondent feels conflict between continuing to work for his or her current organization and leaving). Only the overall commitment scores (AC-C) at country level were available for this data set, so no reliability values could be calculated.

Data Set D was the International Social Survey Program (1997, 2001) data file Work Orientations II, 1997. Commitment was measured by the items, “I am proud to be working for my firm or organization” and “I am willing to work harder than I have to in order to help the firm or organization I work for succeed.” Items were scored on a 5-point Likert-type scale with higher numbers representing increasing degrees of favorability. National scores for these data (AC-D) were calculated by computing country means for both items and then averaging them. Standardized item alpha was .67 at the individual level and .72 at the country level.

Measurement equivalence was investigated by conducting a confirmatory factor analysis. (This could be done only for AC-A, as this was the only data set containing individual-level data and at least three items.) The three items were configured to load on a single latent factor, and model fits were compared for an unconstrained model, where the loadings of the items were allowed to vary between countries, and a constrained model, where corresponding loadings were constrained to equality across countries. If the fit of the constrained model is acceptable, scalar equivalence can be assumed because the data can be adequately described by a single (one-factor) structure with the same loadings in all countries.

For the unconstrained model, the fit was necessarily perfect because with only three items, the degrees of freedom is 0. For the constrained model, the χ^2 statistic was significant ($\chi^2 = 289$, $df = 30$, $p < .001$). Although this indicates significant discrepancies between the model predictions and the observed data, χ^2 increases with sample size, and in large samples even small discrepancies may be statistically significant. It is therefore usual to assess goodness of fit by indicators that are relatively independent of sample size, such as the root mean square error of approximation (RMSEA; Browne & Cudeck, 1993), the comparative fit index (CFI; Bentler, 1990), and the Tucker-Lewis index (TLI; Bentler & Bonnet, 1980). An RMSEA value of .05 or below indicates a good fit, and a value of .08 or below indicates an acceptable fit. For the CFI and the TLI, values above .9 are usually regarded as acceptable. For the constrained model, RMSEA was .026, CFI was .98, and TLI was .97. These results indicate excellent fit and demonstrate scalar equivalence for AC-A across the sample countries.

COMBINING THE AC MEASURES

Table 1 shows the intercorrelations among the four AC measures. The Pearson correlations, shown in the lower triangle of Table 1, indicate a satisfactory level of convergent validity

TABLE 1
Correlations Between National Affective Commitment (AC) Measures

	<i>AC-A</i>	<i>AC-B</i>	<i>AC-C</i>	<i>AC-D</i>
<i>AC-A</i>	—	.74***	.87***	.12
<i>AC-B</i>	.84***	—	.66***	.64**
<i>AC-C</i>	.90***	.71***	—	.51*
<i>AC-D</i>	.04	.47*	.46	—

NOTE: The lower triangle contains Pearson product moment correlations; the upper triangle contains percentage bend correlations.

* $p < .05$. ** $p < .01$. *** $p < .001$.

among AC-A, AC-B, and AC-C but only limited convergence between these measures and AC-D. Pearson correlations, however, are sensitive to outlying values, and inspection of bivariate scatter plots suggested that the correlations for AC-D were depressed by outliers. To confirm the extent to which outliers were responsible for depressing or elevating the Pearson statistics, we therefore computed percentage bend correlations (r_{pb} ; Wilcox, 1997) among the four AC measures. r_{pb} is a robust measure of correlation that is relatively unaffected by outliers; its calculation involves a parameter β , which was set to .1. The r_{pb} values, which are reported in the upper triangle of Table 1, are all statistically significant and substantial, except for the correlation between AC-A and AC-D, which remains negligible. This correlation, however, is based on only eight countries and can therefore be ignored. Otherwise, the remaining correlations suggest that all the AC measures are in good agreement, and in particular the correlations of AC-D with AC-B and AC-C are increased. Furthermore, standardized item alpha for the four AC measures (based on the six countries for which all four measures were available) was .74. We may therefore conclude that, overall, the AC measures exhibit reasonable convergent validity at country level and that it is legitimate to combine them. Accordingly, the AC measures were standardized and averaged to give a single AC measure for each country.

NATIONAL DIFFERENCES IN AC

Before considering how AC relates to the other variables in this study, it is clearly necessary to establish that AC varies by country. For AC-A and AC-D, (the data sets containing individual-level data), one-way ANOVAs by country were statistically significant, $F(1, 15) = 66.6$, $p < .001$, and $F(1, 25) = 58.0$, $p < .001$, respectively. Furthermore, a variance components analysis showed that the proportion of variance in AC scores attributable to country was 14% for AC-A and 8% for AC-D. These results indicate that mean AC differs significantly between countries and that AC can be meaningfully treated as a country-level variable.

RESULTS—CORRELATIONS BETWEEN AC AND STUDY VARIABLES

Correlations between AC and the study variables are shown in Table 2. To reduce the threat of possible distortions in the results caused by outliers, we report both Pearson and percentage bend ($\beta = .1$) correlations. Most significance levels are unaffected, indicating that the Pearson correlations are relatively undistorted by outliers. However, unemployment rate and affective autonomy, nonsignificant Pearson correlates of AC, become significant under

TABLE 2
Correlations Between National Affective Commitment
Measures and Study Variables

	n	Correlations	
		Pearson	Percentage Bend
Socioeconomic conditions			
Gross national income per capita (log.)	47	-.08	-.05
Unemployment rate	48	-.25	-.34*
Male economic activity rate	45	.34*	.35*
Eysenck (1947) personality factors			
Extraversion	31	.63***	.66***
Neuroticism	31	-.44*	-.45**
Psychoticism	31	-.33	-.33
Lie scale	31	.17	.15
NEO personality factors			
Extraversion	29	.49**	.46**
Neuroticism	29	-.48**	-.50**
Openness to experience	29	.04	-.01
Agreeableness	29	.25	.20
Conscientiousness	29	.36	.22
Positive affect			
Happiness (Veenhoven, 2005)	43	.40**	.34*
Happiness (Inglehart, 2005)	39	.53***	.50***
Hofstede (2001) cultural dimensions			
Power distance	36	-.09	-.09
Individualism	36	.07	.03
Uncertainty avoidance	36	.07	.07
Masculinity	36	-.26	-.20
Schwartz (1994) value types			
Conservatism	29	-.13	-.14
Affective autonomy	29	.31	.38*
Intellectual autonomy	29	.05	.07
Hierarchy	29	-.17	-.19
Mastery	29	.01	.08
Egalitarian commitment	29	.14	.15
Harmony	29	-.03	.00
Smith, Dugan, and Trompenaars (1996) cultural dimensions			
Conservatism versus egalitarian commitment	35	.53***	.54***
Utilitarian versus loyal involvement	35	.18	.21
Bond et al. (2004) cultural dimensions			
Dynamic externality	34	.18	.17
Societal cynicism	34	-.41*	-.41*

* $p < .05$. ** $p < .01$. *** $p < .001$.

robust computation, and conscientiousness, of borderline significance ($p = .06$), becomes clearly nonsignificant under robust computation.

Our prediction of elevated levels of AC in richer countries (Hypothesis 1) receives no support; the correlation between AC and per capita national income is effectively zero. The correlations of AC with unemployment and economic activity rates are significant, however, and in the expected direction, lending support to Hypothesis 2. However, the correlations are

weak, and overall it seems that national differences in AC cannot be adequately explained by socioeconomic factors alone.

The cultural values systems proposed by Hofstede (2001) and Schwartz (1994) also seem inadequate as antecedents of AC. Of the 11 value dimensions in this category, only Schwartz's affective autonomy has a barely significant (robust) correlation with AC. There is no evidence that collectivist values are associated with elevated levels of AC, and thus Hypothesis 3 is not supported.

The negative correlation between AC and societal cynicism supports Hypothesis 4; general cynicism in a society loosens the affective bond between employee and employer, as might be expected. However, there is no evidence that loyal (as compared to utilitarian) societies are characterized by higher AC, and thus Hypothesis 5 is not supported. As predicted by Hypothesis 6, there is a positive correlation between AC and Smith et al.'s (1996) egalitarian commitment.

The relationship between AC and aggregate personality is strong and in accordance with Hypotheses 7 and 8. That is, AC is elevated in countries where extraversion is high and neuroticism is low. The prediction of a positive association between AC and happiness (Hypothesis 9) is also supported.

All correlations were recalculated with a measure of AC that excluded AC-D, which had the weakest relationship with the other three AC measures. The only difference was that the Pearson correlation between AC and masculinity became significant ($r = -.33, p < .05$), but the percentage bend correlation between these variables remained nonsignificant. Otherwise, the magnitude of the correlations and the pattern of significance levels were essentially unchanged. These results are therefore not reported.

DISCUSSION

The purpose of this study was to determine the extent to which national levels of organizational commitment can be explained by differences in socioeconomic conditions, culture, and aggregate personality.

Socioeconomic factors appear to have only marginal effects on AC, but where they occur, such effects are in the predicted direction. That is, high employment levels and high rates of economic activity are associated with slightly elevated levels of AC. Possibly, employees in buoyant job markets are more able to find congenial employment and thus to achieve higher levels of job satisfaction, leading to the development of affective bonds with their employing organization. It might be predicted, however, that more calculative forms of commitment (e.g., continuance commitment) would be observed in less economically developed nations, where employees have limited choice in the job market and may be forced to accept unfulfilling work.

None of Hofstede's (2001) cultural dimensions is significantly related to AC. This is consistent with previous research that has found weak and theoretically unexpected relationships between commitment and Hofstede's values (Palich, Hom, & Griffeth, 1995; Randall, 1993). An interesting feature of the present results is the lack of any connection between AC and the high levels of group loyalty characterized by collectivist or loyal involvement societies. The organizational bond indexed by AC appears to be qualitatively different from the kinds of group cohesion most frequently used to define national cultures.

Apart from affective autonomy, Schwartz's (1994) value types are similarly unrelated to AC. The cultural dimensions that relate most strongly to AC are societal cynicism, and

conservatism versus egalitarian commitment. That high levels of cynicism in a society are associated with low levels of AC is exactly what would be expected. The elevated level of AC in egalitarian, as compared to conservative, societies possibly reflects differences in the way the employer-employee relationship is construed. We suggest that in conservative societies, employees expect to receive a wide range of benefits and assistance as a right, whereas in egalitarian societies, concern for employee welfare is more likely to be interpreted as the discretionary attitude of a generous employer. However, this result should be treated with caution, as Schwartz's measures of conservatism and egalitarianism correlated only weakly with AC, although they are in the direction predicted by theory.

Perhaps the most interesting finding is that AC is strongly related to extraversion and neuroticism. Furthermore, the national-level relationships observed here are isomorphic with those observed at the individual level of analysis. In particular, the correlations of AC with extraversion and neuroticism found here are directionally consistent with the individual-level correlations reported by Judge et al. (2002) and Thoresen et al. (2003). A clear relationship also exists between AC and national happiness. Together, these results support the proposition that national levels of AC are associated with the general level of positive affect in the population.

However, the national-level correlations for commitment found here (extraversion, .49, .63; neuroticism, -.44, -.48) are noticeably stronger than the individual-level correlations reported by Thoresen et al. (2003; extraversion, .22; neuroticism, -.23). A possible explanation is that the national-level correlations are inflated because of the increased reliability of the relevant variables, which are group means produced by aggregating large numbers of individuals. However, Thoresen et al.'s correlations are meta-analytic statistics and include correction for measurement error. It seems unlikely that reductions in measurement error alone can account for the inflation, and a second possibility is that some culture-level mechanism is at work.

A possible candidate is emotional contagion (Hatfield, Cacioppo, & Rapson, 1993; Schoenewolf, 1990), a process whereby the expressed affect of a sender influences the experienced affect of a receiver. According to this conception, when employees radiate positive affect in the course of conducting their work, their emotions are perceived and absorbed by others, who as a result experience pleasant encounters. For example, Pugh (2001) demonstrated that the display of positive emotion by bank employees is positively related to customers' positive affect following service encounters and to their evaluations of service quality. Similarly, Howard and Gengler (2001) found that exposing receivers to happy senders resulted in receivers having positive attitudes toward a product. It seems likely that similar effects will occur between employees in an organization. Thus, in countries with high average levels of positive affect, employees will experience pleasant peer-to-peer and superior-subordinate interactions and consequently develop positive attitudes toward their organizations, which will be reflected in elevated reports of AC.

The limitations of this study must be borne in mind when evaluating the results. First, we used country as a marker for both culture and personality. Although common in many cross-cultural studies (Schaffer & Riordan, 2003), this strategy ignores the fact that some countries consist of heterogeneous populations, which may have distinct cultural or personality characteristics. More important, the study was limited to examination of only one type of organizational commitment. We suspect that continuance and normative commitment would show quite different patterns of relationships with the study variables considered here. For example, we might speculate that normative commitment would be high in collectivist countries and continuance commitment high in uncertainty-avoiding and poor countries, and further research is called for here.

A major strength of this study is the use of multiple independent measures of AC, gathered under widely varying data collection protocols, and multiple measures of personality. In most cross-cultural studies, including the present one, only a moderate number of distinct countries or cultures are available for analysis, and correlational statistics calculated under these circumstances are notoriously sensitive to outliers. Using multiple measures of these key variables provides some protection against drawing conclusions that are based on unique artefacts of a particular data set or instrument.

When faced with the problem of accounting for national differences in work attitudes, many researchers instinctively turn to cultural and economic factors for an explanation. The present results suggest that this may not always be enough; a comprehensive, cross-cultural account of work-related attitudes needs to embrace the influence of aggregate personality as well. In the future, we hope to see more frequent use of aggregate personality as an explanatory variable in cross-cultural studies.

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