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THE INDIVIDUALIST POLITY AND THE PREVALENCE OF PROFESSIONALIZED PSYCHOLOGY: A CROSS-NATIONAL STUDY

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Contemporary societies are organized around models in which both collective and individual goods, resources, and other properties are central. These models are highly developed and rationalized so that scientific and cultural scrutiny of their core elements are highly legitimated. In almost all of these models, the individual is such a core element—as an ultimate sovereign, beneficiary, and as a component of the collective. This produces social arrangements in which scientized and professionalized attention to the inner structure and behavior of the individual receives much public attention. Using multiple indicator models, we show that those modern polities strongly centered on the individual as a core component create higher levels of professionalized psychology than do other polities, even when general social and economic resources and complexity (and some other controls) are held constant.

Two prominent features of modern social thought and cultural ideology are individualism and rationalization. Individualism refers only partly to sociocultural arrangements encouraging individuals to be completely autonomous and uncontrolled (Bell 1976; Berger, Berger, and Kellner 1974; Lasch 1983). More importantly, it encompasses the rise and legitimation of models of society in which the individual is seen as a central constitutive element: the sovereign source of public life—political, economic, social, and cultural—and the source of problems in these areas; the proper beneficiary of political, economic, social, and cultural life; and the primordial or grounding element of all of social structure. Thus, in an individualist society, essentially by definition, individual persons in both the particular and the abstract are seen as highly relevant to the collective good.

Following Durkheim (1933) and Simmel (1955), many classic analyses see western and now worldwide individualism as resulting from the rise of modern social complexity (Foucault 1979; Kohn and Schooler 1983; Luhman 1986). Conversely, other analyses, following Weber (1930), see the cultural legitimation of individualism as playing a causal role in the rise of modern development (see also Dannefer 1984). Either line of thought can account for a close connection between contemporary sociocultural
modernization and legitimated individualism: This connection is seen as basic in almost all the literature (for more elaborate discussions, see Dumont 1986; Giddens 1991; Thomas, Meyer, Boli, and Ramirez 1987). Either line of thought can also explain why the cultural focus on the individual might vary among contemporary developed societies for social and cultural reasons (Jepperson and Meyer 1991).

The argument stressing political and cultural factors as sources of individualism is especially emphasized in contemporary institutionalist work. This view treats many of the elements of the modern system—including the status of the individual—as being created, intensified, and culturally diffused (Thomas et al. 1987). But many other views of modern society—including classic functionalist conceptions (e.g., Parsons 1971)—see modern society as stemming from a cultural emphasis on the individual. Thus, a demonstration of an association between political-cultural modernization and the professionalized concern with the individual does not uniquely support contemporary institutional theories. Nevertheless such an association may cast doubt on narrowly realist theories of modern individualism as simply a product of the functional complexity of modern society (e.g., economic development and industrialization).

Beyond individualism, modern societies are well understood to be highly rationalized. This is true in several senses. They are structurally rationalized around elements and relations conceived in clear purposive ways around explicit economic, political, and social ends. Sometimes analysts see this structural differentiation as having a natural functional character and history, with its codification to be found only in the work of social theorists. But modern societies are also culturally rationalized in the sense that they incorporate as authoritative some quite abstract, codified, integrated, and often scientific (or otherwise universalistic) models of progress (e.g., the gross national product per capita) and justice (e.g., income or welfare equality). In these cases, the cultural rationalization around rational functional models is a central component of the modern social system itself, not simply an aspect of social theory (Thomas et al. 1987).

In fact, most aspects of modern society are organized around institutionalized and rationalized cultural theories managed in reality by scientists, lawyers, and other professionals. The fact that such theories are worldwide in character helps account for the rapid spread and isomorphism of at least the formal structures of modernity (Meyer 1980; Robertson 1992; Strang and Meyer 1993; Thomas et al. 1987). There are standard models of economy, polity, and society that define appropriate goals, means, and structures (e.g., the proper nation-state). These models specify in detail appropriate economic, political, educational, medical, familial, and other structures, and they structure the careful scientific and professional attention to each domain.

It is, thus, natural that modern systems legitimize careful rationalized scrutiny of the individual as a core element in all modern theories of society. Society, in all its economic and political aspects, is seen as depending on individuals—and the “good” society is thought principally to benefit them. Thus, the nature of the individual is a matter of public importance, because individuals and their needs and choices drive every social good—from economic progress through individual market choices about labor, investment, and consumption, to political effectiveness produced by individual choices and commitments, to social justice defined in terms of individual needs.

This general idea is much discussed in the literature (e.g., Berger et al. 1974; Dumont 1986; Thomas et al. 1987, and many others). The main points are that individualism is highly institutionalized and legitimated, and thus a matter of collective public concern, and not simply an attitude or orientation of contemporary persons. Individualism is a property of the modern polity—of society as a collective structure.

While every modern ideology of public life and society includes the individual as a prominent component and each depiction seems to generate or sustain some sort of psychology of the individual, versions of the modern polity differ in the extent to which the interior structure of the individual—the internal self—is articulated, recognized, and theorized as a component of public life. Varying versions of the modern ideology are
coded principally in national polities, which build constitutional structures around somewhat different models of the state, nature, society, and, of course, the individual (Jepperson and Meyer 1991). In versions of the modern system organized around centralized states, for example, the conceptualized individual is a relatively passive element of an organized polity and economy (though usually with a good many rights in these collectivities, and usually protected by them). In versions of the modern system linked to corporatism, a recognized and theorized private self is conceived as contributing motivation and commitment to public life and as entitled to the benefits of protective membership. Still stronger conceptions of the individual are associated with liberal models of society. In these, the individual is not only a part of society and its putative beneficiary but is the crucial causal ingredient that creates society over time.

ARGUMENT

Thus, we arrive at the core argument of our paper: In modern societies, variations in the institutionalization of the individual affect variations in the prominence of professionalized and scientific psychology, over and above the effects of socioeconomic development and complexity. We focus on professionalized aspects of psychology for two reasons. First, our indicators describe only professionalized aspects of the field, rather than, for instance, its prominence in mass culture. Second, the rationalization characteristic of modern systems seems especially likely to lead to the highly professionalized and scientized structuring of discourse around the individual, especially when this individual is politically and culturally central.

Our argument derives most directly from institutional theories that stress the extent to which the modern nation-state is a cultural model, variously committed to individualism. But other theories also emphasize legitimated individualism as both component and consequence of the modern system—especially in liberal variants. The question arises whether the relationship we propose between individualism and professionalized psychology should be seen as a tautology rather than a cause and effect. Although our analyses are cross-sectional, we treat the relationship causally for several reasons. First, empirically, around the world the greatest expansion of professionalized psychology occurred recently, and clearly it post-dates the development of the modern individualist nation-state: In an empirical sense professionalized psychology is better seen as a consequence than as a component of the individualist polity. Second, the rise of professionalized psychology is unlikely to play a strong role in transforming particular state structures, though it may operate historically as a diffuse force and as a worldwide pressure. Third, theoretically, most current conceptions of the nation-state take a realist form and stress in their definitions the immediate organizational structure and power of the state (Skocpol 1985:3–20). In such conceptions, matters such as the professionalization of psychology lie in something called "society," outside of the state itself, and clearly can be consequences of state action. There is a drift toward broad and institutional conceptions of the nation-state, in which professions, like psychology, can be seen as more constitutive elements (Skocpol 1985:20–27; Thomas and Meyer 1984). We look forward to a future generation of studies that might plausibly work with broader definitions and measures of nation-state properties, certainly including elements like professionalized psychology as indicators. But given empirical constraints and current theory, it makes most sense to conceptualize the relation as a causal one. Fourth, although a range of theories can lead to our core proposition, some important ones do not: These include realist models of modern systems in which individualism derives from social differentiation and economic development, and is not an independent property of culture and polity:

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1 We focus on the prevalence and centrality of psychology in society and in the polities where it has taken hold, not on questions of its historical origin. Scientific psychology is generally thought to have been born in 1879 when Wilhelm Wundt established a psychological laboratory in Leipzig (Geuter 1983). It is not clear, however, that the early psychologists were located principally in countries with more individualist political cultures (see Ben-David and Collins 1966). It is clearer that the field blossomed in more individualist countries, as our data attest.
Thus, holding measures of development constant, at most weak independent effects of the culture of the individualist polity on professionalized psychology would be expected. In such models, an independent effect is not only not tautological—it may not be expected at all.

Our purpose here is to demonstrate cross-nationally the empirical connection between variations in levels of institutionalized individualism and the prevalence of professionalized psychology. We present multiple-indicator models to show the relationship and to test it using reasonable controls for social and economic development.

MECHANISMS

Several causal mechanisms may relate political-cultural individualism to the prevalence of professionalized psychology. Our analyses do not test for these specific relationships, but noting them here provides useful imagery.

First, elites at the state level in individualist societies, who are responsible for policies promoting economic growth, political development, and social justice, are likely to support scientific and professional analyses of the individual, conceived to be the principal component of all such matters (Fiala and Gordon-Lanford 1987). For instance, in contemporary American society, concern about economic competitiveness leads to analyses of the effectiveness of individual American workers and students. Psychological analyses are called for, evaluating how individual qualities (e.g., self-esteem) or incentives for individuals (e.g., national achievement tests) may help improve competitiveness. The argument here is that state elites in rationalized individualist societies, faced with any collective problem or opportunity, are more likely than elites in less individualist societies to see improved and corrected individual persons as a resource for rational action.

Second, nonstate-level elites have similar responsibilities. Managers in business and industry in individualist societies are more likely than in other societies to contemplate psychologically-based improvements in motivation (incentives), broad competence (intelligence or training), or commitment (worker self-development) (Bendix 1974; Dore 1973). In medicine, elites become concerned with psychological factors affecting health choices (such as self-destructive habits) or capabilities (ameliorated, for example, by psychological support groups) (Starr 1982). Elites in education try to improve the qualities, commitments, and motives of children on which educational success is conceived to rely, and the psychological effectiveness of the techniques they use in teaching (learning theories). Such effects are enhanced by legitimated academic systems devoted to the rational study and analysis of matters seen as important. The argument here is that elites in any rationalized sector in individualist societies are likely to define any problem or opportunity as a call for improvements and corrections within individuals and to support the expansion of relevant psychological knowledge, theory, and ideology.

Third, individuals themselves, in individualist societies, have the right and obligation to view their own internal structures (and those of others around them) as matters of public, rationalized, and scientific concern. It is unlikely that people in modern individualist societies have more psychological problems than others do (a much argued and studied question in many theories of mass society). It is very likely that people in such societies are inclined to see their private concerns as instances of general and important rationalized theories, and thus to support and use professional analyses to explain such matters.

This view, that individual problems are the basic ingredient of societal problems, is aided, fourth, by an informal social world, itself organized around models in which individuals are prominent. Persons supporting and interacting with other modern individu-

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2 Both the comparative literature on psychological problems and studies internal to American society support the point that overall rates of psychological problems do not increase with modern individualization (e.g., Bradburn 1965; Kohn and Schooler 1983; Tseng and Hsu 1980; and such typical papers in the Journal of Cross-Cultural Psychology as Crittenden, Fugita, Bae, Lamug, and Lin 1992; and Mann, Mitsui, Beswick, and Harmoni 1994). This literature suggests that modern individualization may lower a good many kinds of symptoms (such as indicators of depression) but may increase some others (in areas related to anxiety or stress).
als are likely to see psychological dimensions as rationalized, universal, and important, so that rational discussion and reflection of such questions is reasonable and necessary at the collective level.

Finally, professional and scientific analyses of the characteristics and needs of the individual are organized at the world level. This is true in scientific discourse, and is also true in institutionalized principles (e.g., the United Nations Declaration of Human Rights and the various policy statements of UNESCO). This kind of thinking is thus widely available and is likely to have special impact on those contemporary societies organized around the special prominence of individuals.

Thus at every level of analysis, we see clear links between legitimated individualism and the prevalence of professionalized psychology.

MODELS AND MEASURES

We construct a multiple-indicator model to test cross-nationally the relationship between levels of national political-cultural individualism and the centrality and prevalence of professionalized psychology. We test this relationship against an obvious alternative—that any form of economic development or modernization generates a greater prominence of psychology. Our core problem is to show the simultaneous effects of overall development and of political-cultural individualism on the prominence of psychology, and in doing this, we also test these relationships against the effects of other relevant variables.

Our core dependent and independent variables are described below. Additional control variables are described later in the presentation of the analysis. Complete data are available for 89 countries.\footnote{Countries without complete data tend to be small and peripheral. In all analyses reported here, Israel is excluded from the dataset. Israel is often an outlier on measures of the prominence of psychology and is difficult to characterize on some measures of political-cultural individualism (e.g., in many respects, it reflects its polity origins in Northern Europe, but is obviously not Protestant). Including Israel in the analyses does not alter the results reported below.} For data sources and transformations and for means and standard deviations for all variables, see Appendix A.

Measuring the Prevalence of Psychology

Because we are concerned with the scientific and professional field of psychology in general, not with psychology as used in the treatment of individuals, we exclude specialized medical applications like psychiatry and counseling psychology. Limited by the availability of data, we use the following six indicators to measure the prevalence of professionalized psychology in 89 countries during the period around 1980: These indicators are substantially intercorrelated, with Pearson coefficients averaging about .70.

The number of psychologists per million people in the year 1980 (logged). For the 38 countries in our analysis whose psychological associations belonged to the International Union of Psychological Science in 1980, data are recorded on numbers of psychologists who are members of the national constituent associations. For the 51 remaining countries not represented in the International Union—countries that typically have very little professional psychological activity—we record a zero.\footnote{Any country with an organized national psychology association may apply for membership in the International Union. Only one association is allowed per country.} We assume that the lack of any organized link to the worldwide field indicates low prominence and centrality, and in our analyses, we test the viability of this assumption. The highest values among the countries in our analysis are 275 and 365 (unlogged) for Finland and Denmark, respectively.

The number of psychologists per million people in 1992 (logged). For 41 countries, parallel data on association memberships 12 years later are recorded. We record a zero for the other 48 countries with no international link to the profession, and check the validity of this approach in our analyses. The highest values among countries in our analysis are 486 and 759 (unlogged) for Denmark and Sweden, respectively.

The number of university-level psychology departments per thousand people. Survey data are available for 80 countries in our data set. For the remaining 9 countries,
which typically have little psychology, we record a zero, and check this assumption in our analyses. Highest values for this indicator appear for Australia and Ireland (.013 and .021, respectively).

The number of developmental psychology authorships per thousand people. This variable is highly skewed (most countries have few or no such authorships, while Canada and the United States have .06 authorships per thousand people). Thus, for these analyses, cases are trichotomized into low (coded 0), medium (coded 1), and high (coded 2) categories. We give special emphasis to the subfield of developmental psychology because it is the Social Science Citation Index’s (1972–1989) category nearest our focus on professional psychology as a discipline studying the inner structure of the individual.

The number of authorships in other fields of psychology per thousand people (logged). For 11 countries in our analysis, no such authorships occur; for Canada and the United States, the countries with the highest numbers of authorships, the unlogged values are .69 and .74.

The number of memberships in international psychological associations. We have data on 18 such international associations for psychology. In our analysis, 8 countries have no memberships in associations; West Germany and Italy have the highest number, 17 and 18 memberships, respectively.

Measuring Political-Cultural Individualism

We use four indicators to determine the degree to which the status of individuals is especially central in national societies: These indicators are substantially intercorrelated with Pearson coefficients averaging about .50.

Democratic institutions. Political systems rooting themselves in individual electoral choice clearly embrace individualist cultural assumptions. We use the 10-point measure developed by Gurr (1990), which emphasizes formal, mass democratic institutions. We sum values for the years 1960, 1965, 1970, 1975, and 1980.

Welfare expenditures as a percentage of GDP (logged). Another aspect of political individualism is a focus on the welfare of individuals, which captures more the status of the individual as beneficiary, as opposed to sovereign (Flora and Heidenheimer 1981). Narrower definitions of individualism than the one employed here define it only in terms of the sovereignty of individuals. We see the rise of the individual as entitled beneficiary—especially in contemporary welfare systems—as a related component, and thus include this indicator in our measure. In deference to narrower definitions, we have re-done our analyses without this indicator (not shown): The results are very similar to those reported.

Years since the establishment of female suffrage. The incorporation of women into a legally equal membership with men in the political system indicates a penetration into society of the norms of individualism (Ramirez, Soysal, and Shanahan 1993).

The Protestant religious/cultural base of the polity. We note those countries whose political systems have clear origins in traditions of Protestant individualism, and take into account Weber’s (1930) distinction between different types of Protestant origin. We code as 2 the classic Anglo-American countries; the Northern European Protestant countries (mostly Lutheran) are coded as 1; all other countries are coded as zero. This variable naturally has a rather skewed distribution: Analyses omitting it (not shown) produced results similar to those shown below.

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5 Note that a single article may have multiple authors, and the authors may be from different countries.

6 Some international psychological associations have organizations as members; others have individuals as members. We count both here.

7 This coding turned out to be slightly more effective than one in which all the Protestant-origin countries received the same score. It also turned out to be slightly more effective than a coding in which the former colonies of Anglo-American countries received a score of .5. We also conducted our analyses with two distinct dummy indicators for the Anglo-American and Northern European Protestant countries. Both indicators load heavily on the general “individualism” variable, and the results of the analyses are similar to those reported below.
Measuring Economic Development

We use two standard and highly intercorrelated ($r = .92$) indicators of national economic development: gross national product per capita (1975 data, logged) and energy consumption per capita (1975 data, logged). Other variables are described, as introduced, in the analysis.

The Model

Figure 1 depicts our basic structural equation model. The model joins measurement models, which specify the relationships of observed to latent variables, to a latent-variable model, which shows the effects of latent variables on one another (Bollen 1989). The aim is to show how the level of a country’s political-cultural individualism, indicated by the four measures described above, affects the prominence of professionalized psychology, indicated by the six measures, also described above, with national economic development held constant. The coefficients shown are the maximum likelihood estimates of the model based on the sample covariance matrix provided by the EQS program (Bentler 1991).

In experimenting with estimation of the model, fit was improved by allowing the error terms of certain indicators to be directly correlated with one another. The reasons are obvious: The measures for numbers of authorships in developmental psychology and in other areas of psychology share a common variance associated with the variance among countries in the emphasis on scientific psychological research. And the measures of psychologists per capita in 1980 and 1992 share a common variance, which is increased by our practice of giving zero scores to those countries that lacked representation in the International Union of Psychological Science (and memberships changed only slightly from 1980 to 1992). The error term for the log of welfare expenditures was negatively correlated with the error term for nation-states deriving from a Protestant tradition: Both indicators loaded substantially onto the individualism factor, but to some extent they reflect different aspects of it. Flora and Heidenheimer (1981), Jepperson and Meyer (1991), and others note that these two variables involve somewhat different dimensions of individualism. The political tradition of (especially liberal) Protestantism stresses the individual as participant and sovereign in the public order, while the welfare view treats the individual more as a beneficiary.

RESULTS

Figure 1 shows our basic results. It presents both unstandardized coefficients (standard errors in parentheses) and standardized coefficients (in brackets) across the 89 countries for which complete data were available. Table 1 shows the relevant goodness-of-fit statistics for the model. Together, the results are striking—the model fits the data very well. Indicator loadings on each of the three core concepts are high. Figure 1 shows that the estimated standardized effect of political-cultural individualism on the prominence of professionalized psychology is .77 ($p < .001$); national economic development is highly correlated with individualism, yet its effect on the prominence of psychology is only .24 (and at $p < .10$ approaches statistical significance).

Table 1 shows that some correlations between particular indicators are stronger than the model would predict—adding error-term intercorrelations would slightly improve the

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8 Ordinal variables, such as the trichotomized indicators of developmental psychology authorships and nation-states deriving from Protestant traditions, may produce distortions in multiple indicator models, increasing error correlations, although in most cases the bias is insufficient to alter the substantive findings (see Johnson and Creech 1983).

9 Due to the number of cases and the skewed distributions of some variables, the chi-squared test alone is a poor gauge of the model’s goodness of fit. Thus we report two additional statistics—the Bentler-Bonnet non-normed fit index and the comparative fit index. For both, scores above .90 indicate adequate model fit (Dunn, Everitt, and Pickles 1993). The comparative fit index has been shown to be especially reliable (see Gerbing and Anderson 1993).

10 Because, at 89, the number of cases is somewhat small and because the distributions of some variables are somewhat skewed, barely significant relations are suspect. Stronger effects can be taken more seriously.
Figure 1. Structural Equation Model Testing the Effects of Cross-National Variations in Economic Development and Individualism on the Prominence of Professionalized Psychology: 89 Countries circa 1980

*p < .05  **p < .01  ***p < .001 (two-tailed tests)

Note: Maximum likelihood estimates: Unstandardized coefficients shown with standard errors in parentheses; standardized coefficients appear in brackets.
Table 1: Summary of Goodness-of-Fit Statistics for the Structural Equation Model in Figure 1: 89 Countries circa 1980

<table>
<thead>
<tr>
<th>Statistic/Parameter</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square (d.f. = 48)</td>
<td>88.861***</td>
</tr>
<tr>
<td>Bentler-Bonnett non-normed fit index</td>
<td>.94</td>
</tr>
<tr>
<td>Comparative fit index</td>
<td>.96</td>
</tr>
</tbody>
</table>

LaGrange Multiplier Test for Correlated Error (Chi-square):

- Developmental psychology authorships/thousand people (trichotomized), Gurr index of democratic institutions 11.29***
- Memberships in international psychology organizations, nation-states deriving from Protestant tradition 8.96**
- Log psychologists/million people in IUPsyS 1992, nation-states deriving from Protestant tradition 6.80*
- Log psychologists/million people in IUPsyS 1980, years since female suffrage 5.98*
- Log energy consumption/capita, nation-states deriving from Protestant tradition 5.81*
- Log GNP/capita, log welfare expenditures/GDP 4.15*

* p < .05  ** p < .01  *** p < .001 (two-tailed tests)

The fit of the model. In our judgment, this was not necessary to make the basic point we investigate here.

Methodological Checks and Control Variables

A number of questions arise from the analyses reported in Figure 1 and Table 1:

Is the effect of individualism on psychology stronger than it is on the sciences and social sciences in general? Political-cultural individualism is part of a larger cultural matrix involving the rationalization and scientization, not only of the individual, but of society in general (the “invention of society”) and of the natural world (the “demystification of nature”). Given this, we could extend our arguments to propose that political-cultural individualism leads to the expansion of the social sciences in general, and also of the natural sciences (Thomas et al. 1987, chap. 1). But clearly, we anticipate an especially strong effect of individualism, as we have conceptualized and measured it, on psychology. Earlier, we had imagined a similarly strong effect of individualism on the prominence of modern economics—a field now built on analyses of the “individual-in-action” (as opposed to the more psychological “individual-as-actor”). But beyond this, we suppose that the effect of individualism on the rest of the social sciences, and on the natural sciences, would be weaker than its effect on psychology.

To investigate this question, limited greatly by the availability of data and resources, we analyzed the structural-equation model in Figure 1 using three different single-indicator dependent variables. Two are taken from the Social Science Citation Index (1972–1991): for each country, (1) the logged number of authorships in economics per thousand people, 1972–1991; and (2) the logged number of authorships in the social sciences per thousand people (not including psychology and economics), 1972–1991. The third variable is taken from the Science Citation Index.

Besides psychology and economics, 45 subject fields are designated in the Social Science Citation Index. These include anthropology, area studies, criminology, demography, education, geography, history, law, linguistics, philosophy, political science, social work, and sociology.
where psychology is emphasized but that are not recorded in our data: Perhaps we have relied too heavily on indicators collected by the International Union of Psychological Science.

To test for possible measurement error, we twice re-conducted the analysis of the model (Figure 1) with reduced numbers of countries. In the first instance, we dropped from our 89 countries all nation-states with no reported psychology departments or no listed psychology authorships. This left 71 countries. In the second instance, we dropped, in addition, all those countries with no representation in the International Union of Psychological Science in both 1980 and 1992; this left only 40 countries.

Our basic results were unchanged and statistically significant. The estimated standardized effect of political-cultural individualism on the prominence of professionalized psychology was .57 (p < .001) in the first instance and .61 (p < .01) in the second. The estimated standardized effect of national economic development on the development of professionalized psychology was .48 (p < .001) in the first instance and .43 (p < .01) in the second. The standardized effect of political-cultural individualism was reduced in these analyses, obviously, because variance in the dependent variable was reduced by our procedure. For the same reason, measures of goodness of fit were less satisfactory in these analyses: The compressed variance in the dependent variable means that indicators for these variables hang together less well and tend to overlap in meaning with indicators for our independent variables.

Control variables. We also re-estimated the model (Figure 1) with a number of different control variables—each one defined by a single indicator. First, to check against the obvious possibility that both independent and dependent variables reflected an English-language bias, we incorporated as a dummy variable whether or not English is an official language of a country (Cha 1991). This variable showed a small negative effect on the prominence of professionalized psychology and did not significantly modify the results shown earlier.

Second, to check the possibility that countries with larger populations tend to receive higher scores on indicators for the prevalence
of psychology, we used the logged population size in 1980 (United Nations 1985). This variable, in fact, did show a significant effect on the prevalence of professionalized psychology because larger countries are more likely to be entered into international data sets. The effect declined to nonsignificance when we eliminated countries with indicators coded zero (described above). But in no case did inclusion of the logged population size substantially alter the main findings of our analysis.

Third, to check the possibility that expanded national states tend to build up, through central processes, the prevalence of psychology, we incorporated a standard measure of this variable—government revenue as a proportion of GDP in 1973 (World Bank 1980). This variable did not have a significant effect on the prominence of psychology, nor did its inclusion alter our main findings.

Fourth, to check the possibility that the social disorder and instability associated with individualism and economic development might play a role in producing more psychology, we incorporated several different control variables (added one at a time): (1) the GNP growth rate from 1965 to 1985 (Banks 1990); (2) income inequality, measured by the percent of income taken by the top quintile (Moaddel 1994); (3) political instability, measured by deaths from political violence from 1973 to 1977 (Taylor and Jodice 1983); and (4) foreign direct investment as a proportion of real gross domestic product (Bornschier and Chase-Dunn 1985). Foreign investment has generally been treated in the literature as having a destabilizing effect, particularly in Third-World countries, and in particular as being associated with low economic growth and high income inequality.13

In none of these analyses is the effect of political-cultural individualism substantially modified. And in none does the added control variable account for much variation, though the effects of GNP growth rate and foreign direct investment are negative and significant \( p < .05 \).14

13 Firebaugh (1992), however, has put forward substantial criticisms (and supporting empirical analyses) of this line of thought.
14 The fact that the effects of GNP growth and foreign investment are negative (rather than being positive, as an anomic or social disorganization argument would suppose) suggests that social disorder plays little part in the expansion of psychology. The negative effect of economic growth probably reflects time lags in the causal process by which economic development and modernization produce the institutions of psychology. Thus, recent “growers” have less psychology than one would expect on the basis of their current economic status. Similarly, the negative effect of foreign investment may reflect nothing about social disorganization, but simply the weakness of such endogenous institutions as psychology in countries whose economies (and presumably infrastructures in general) are heavily exogenous.
part reflects this general effect. It is unclear that such an effect is greatly destructive to our argument, as we may again be including part of the process in which we are interested (i.e., using an independent variable that overlaps with our dependent variable). Social rationalization through scientific expansion is obviously a general process, of which the rationalization of scientific psychology is one dimension. On the other hand, our arguments clearly anticipate an effect of individualism on the prevalence of professionalized psychology over and above the effects on general activities in the sciences.

In any event, we incorporated a measure of general scientific activity: the logarithm of the number of scientific articles authored from a country per thousand people. This variable, indeed, showed a pronounced effect on the prevalence of psychology (standardized coefficient = .52, \( p < .001 \)). The inclusion of the science activity variable reduced the effect of political-cultural individualism, but this effect remained strong and significant (standardized coefficient = .52, \( p < .001 \)). Because general scientific activity is so highly correlated with all our other indicators, model fit declined substantially, although the other basic relationships remained intact.

To further explore the questions raised here, we conducted some additional analyses. First, we re-estimated our basic model including both tertiary educational enrollments and scientific authorships as indicators of national economic development. Results showed little change from those reported in Figure 1, although model fit declined (because educational enrollment and scientific activity together are highly correlated with indicators for political-cultural individualism and for professionalized psychology).

Second, we included tertiary educational enrollments and scientific authorships \textit{one at a time} as indicators of national economic development. Model fit declined, but the addition of each control produced little modification of our basic results.

Third, we attempted to estimate a model in which logged values for tertiary educational enrollment and scientific authorships were used as indicators of a general unmeasured variable (elite rationalization, one might call it). Both our original effects, of political-cultural individualism and national economic development on the prevalence of professionalized psychology, remained large (though nonsignificant), the effect of the new variable was estimated as negative, standard errors became extremely large, and the fit was very poor. Obviously in this model, multicollinearity was extremely high, and one can have no confidence in the results: on the other hand, nothing in the results indicates that our basic argument is defective.

To summarize our additional analyses, we compared the results for professionalized psychology against three other dependent variables—authorships in economics, in all other social sciences, and in the natural sciences; we reduced the case base to eliminate measurement error; included English language, population size, state centralization, GNP growth rate, income inequality, political instability, and foreign direct investment as control variables; and added measures of the expansion of tertiary education and scientific activity as control variables, as measures of national economic development, and as measures of a third latent variable, elite rationalization. Throughout these methodological explorations, our basic proposition that political-cultural individualism strongly affects the prominence of professionalized psychology retained much support.

**DISCUSSION**

To concretely illustrate the impact of our analysis, we report descriptive data on the difference that polity type makes on our six indicators of the prominence of professionalized psychology. Table 2 shows the relevant data: It is intended to illustrate, rather than add to, the analyses described above. To eliminate the effect of overall economic development, we restrict the data to the 20 most highly developed countries in the world, as defined by energy consumption per capita in 1980. We also eliminate countries with fewer than 2 million persons. Countries are classified in a simple scheme: the core Anglo-Protestant liberal countries, where we expect psychology to be especially prominent; Continental Protestant countries, where we expect prevalence to be high, as well; and three other polity types, where we expect the prevalence of psychology to be low: Social-
<table>
<thead>
<tr>
<th>Polity Type</th>
<th>IUPsyS Psychologists per Million People in 1980</th>
<th>IUPsyS Psychologists per Million People in 1992</th>
<th>Psychology Authorships per Thousand People</th>
<th>Developmental Psychology Authorships per Thousand People</th>
<th>Memberships in International Psychology Organizations</th>
<th>Psychology Departments per Thousand People</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anglo-Protestant</td>
<td>154.8 (49.0)</td>
<td>204.8 (75.7)</td>
<td>.5880 (.1828)</td>
<td>.0390 (.0195)</td>
<td>14.4 (2.9)</td>
<td>.0066 (.0041)</td>
</tr>
<tr>
<td>(USA, Canada, UK, Australia, New Zealand)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continental Protestant</td>
<td>199.6 (104.4)</td>
<td>381.9 (217.2)</td>
<td>.1825 (.0453)</td>
<td>.0094 (.0040)</td>
<td>12.9 (3.6)</td>
<td>.0047 (.0019)</td>
</tr>
<tr>
<td>(Denmark, Finland, Netherlands, Norway, Sweden, Switzerland, West Germany)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Socialist European</td>
<td>67.3 (14.0)</td>
<td>71.5 (89.8)</td>
<td>.0192 (.0006)</td>
<td>.0002 (.0001)</td>
<td>9.7 (1.5)</td>
<td>.0044 (.0057)</td>
</tr>
<tr>
<td>(East Germany, Poland, Hungary)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catholic European</td>
<td>29.7 (30.1)</td>
<td>23.3 (25.8)</td>
<td>.0947 (.0541)</td>
<td>.0038 (.0025)</td>
<td>15.0 (1.7)</td>
<td>.0037 (.0019)</td>
</tr>
<tr>
<td>(Belgium, France, Austria)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Far East</td>
<td>12.5 (17.7)</td>
<td>16 (22.6)</td>
<td>.0221 (.0014)</td>
<td>.0005 (.0001)</td>
<td>11.0 (5.7)</td>
<td>.0008 (.0057)</td>
</tr>
<tr>
<td>(Singapore, Japan)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Standard deviations are in parentheses. Economic development level was determined by energy consumption per capita in 1980 (World Bank 1980) for countries with populations greater than 2 million persons. Because the data for psychologists per million people 1992 and psychology departments per thousand people were collected following the reunification of Germany, separate numbers for East Germany and West Germany were not always available. The averages were constructed accordingly.
ist European, Catholic European, and Far Eastern. 15 Means and standard deviations for each of our indicators of the prominence of professionalized psychology are reported.

Table 2 shows the dramatic differences our model predicts. On all six indicators of the prevalence of psychology, except memberships in international psychological organizations, the expected differences appear. Most of the time, the differences are very large. For example, the Continental Protestant countries are higher than the Anglo-Protestant ones on our two indicators of psychologists per million people (in 1980 and 1992), but on the other four indicators they are lower. Both of these groups of countries are higher than all other groups on all indicators (with the single exception of Catholic European countries on memberships in international psychological organizations). Overall, the observed differences are very substantial.

CONCLUSION

We argue, along with many others, that rationalized modern political-cultural systems emphasizing the centrality of the individual tend to sustain professionalized and scientized psychology. We show this effect empirically, across countries and using six indicators for the prominence of professionalized psychology. We do this using multiple-indicator models and control for national economic development and a variety of other factors. The effect of individualism on the prevalence of psychology turns out to be very large.

We approach the relationship between political-cultural individualism and the prevalence of psychology from an institutionalist perspective, which treats the construction and rationalization of social elements, such as the individual, as a rather direct consequence of the operation of modern liberal society seen as a cultural model. Our results certainly support this view: But they also support those other (e.g., Parsonian) theories of the modern system that emphasize the relationship's legitimating roots in culture (e.g., values). Our results are thus of empirical interest and yet they do not uniquely support a single theoretical position. Theoretically, however, the results reflect negatively on those arguments that would view professionalized psychology as simply reflecting the structural individualism produced by modern economic development.

For several centuries, world society has been dominated by hegemonic liberal models. This is most prominently true in the post-World War II period, during which the United States has been very dominant and the liberal model of society has been written into world organizations and ideologies and seen as being applicable everywhere (McNeely 1995; Meyer 1994; Thomas et al. 1987). This has undoubtedly extended the legitimate public concern with the status and personhood of the individual everywhere, reflected in the emphases of world society and international organizations (both governmental, as in the UN system, and nongovernmental) on human rights and citizen rights. Psychology, as a rationalized, professionalized, and scientized discipline incorporating this individualist view of society, has spread rapidly. Nevertheless, professionalized psychology turns out to be especially prevalent in the Anglo-Protestant core countries—the hegemonic source, it seems, of much of the special celebration of the individual in the modern system.

David John Frank is Assistant Professor of Sociology at Harvard University. He recently completed a dissertation on global environmentalism, with particular emphases on the discourse, foundings, and ratifications of international environmental treaties. His current research focuses on the genesis, content, and consequences of world models of persons, nature, and national societies.

John W. Meyer is Professor of Sociology at Stanford University. His current research is on the development of world society as a cultural and associational system, and its impact on national societies and states. Particular foci involve

15 Socialist European, or the former Communist countries, represent a distinct statist (and clearly illiberal) polity type: In the period represented by our data, these regimes dominated their societies and their history in striking ways. Thus, for example, we treat the former German Democratic Republic as reflecting its Communist regime rather than its earlier Protestant history. During our study period, the included countries were also, by almost all available indicators, high in economic development, despite their later post-1989 collapse.
the rise of modern educational systems, scientific activity, and citizenship and human rights institutions. He has continuing research interests in organizations and the sociology of education.

David Miyahara is a graduate student in the Department of Sociology at Stanford University. His research interests include formal organizations, education, social psychology, and race and ethnic relations. He is currently completing his dissertation on the origins and diffusion of admissions policy reforms in American colleges and universities.

Appendix A. Definitions of Variables, Data Sources, Data Transformations, and Means and Standard Deviations: 89 Countries circa 1980

<table>
<thead>
<tr>
<th>Variable</th>
<th>Source</th>
<th>Transformation</th>
<th>Mean (S.D.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prevalence of Psychology</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychologists per million people, 1980</td>
<td>Rosenzweig 1982</td>
<td>1 was added to all cases (to eliminate zeros) and the resulting number was logged.</td>
<td>1.58 (2.07)</td>
</tr>
<tr>
<td>Psychologists per million people, 1992</td>
<td>IUPayS 1992</td>
<td>Sweden, an outlier with 759, was reduced to the level of Denmark, 486. 1 was added to all cases (to eliminate zeros) and the resulting number was logged.</td>
<td>1.61 (2.10)</td>
</tr>
<tr>
<td>University psychology departments per thousand people</td>
<td>d’Ydewalle 1993</td>
<td>.0001 was added to all cases (to eliminate zeros) and the resulting number was logged.</td>
<td>−7.07 (1.25)</td>
</tr>
<tr>
<td>Developmental psychology authorships per thousand people</td>
<td>ISI 1972–1989</td>
<td>The variable was trichotomized: 0 = 0; .00001 to .00063 = 1; and higher = 2.</td>
<td>.91 (81)</td>
</tr>
<tr>
<td>Other psychology authorships per thousand people</td>
<td>ISI 1972–1989</td>
<td>.0001 was added to all cases (to eliminate zeros) and the resulting number was logged.</td>
<td>−5.56 (2.49)</td>
</tr>
<tr>
<td>Memberships in international psychological associations</td>
<td>UIA 1988</td>
<td>None.</td>
<td>7.29 (5.48)</td>
</tr>
<tr>
<td><strong>Political-Cultural Individualism</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Welfare expenditures/GDP</td>
<td>ILO 1980</td>
<td>Logged.</td>
<td>1.11 (1.62)</td>
</tr>
<tr>
<td>Years since female suffrage</td>
<td>Ramirez, Soysal, and Shanahan 1993</td>
<td>None.</td>
<td>47.62 (17.43)</td>
</tr>
<tr>
<td>Protestant tradition</td>
<td>Direct coding</td>
<td>None.</td>
<td>.19 (.52)</td>
</tr>
<tr>
<td><strong>Economic Development</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GNP per capita</td>
<td>World Bank 1980</td>
<td>Logged.</td>
<td>6.84 (1.32)</td>
</tr>
<tr>
<td>Energy consumption per capita</td>
<td>UNESCO 1980</td>
<td>Logged.</td>
<td>6.47 (1.72)</td>
</tr>
<tr>
<td><strong>Control Variables</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English as official language</td>
<td>Cha 1991</td>
<td>None.</td>
<td>.25 (.43)</td>
</tr>
<tr>
<td>Population</td>
<td>UN 1985</td>
<td>Logged.</td>
<td>9.29 (1.39)</td>
</tr>
</tbody>
</table>

(Continued on next page)
### Variable | Source | Transformation | Mean (S.D.)
---|---|---|---
**Control Variables (Continued)**
Government revenue/GDP | World Bank 1980 | None. | 17.25 (13.70)
Tertiary educational enrollment/age group 20–24 | UNESCO 1980 | None. | 12.03 (10.88)
Tertiary educational enrollment/age group 20–24 | UNESCO 1980 | Logged. | 1.85 (1.39)
GNP growth rate | Banks 1990 | None. | 4.62 (2.29)
Foreign direct investment | Bornschier and Chase-Dunn 1985 | Divided by 100. | 69.19 (73.10)
Percentage of national income controlled by upper quintile | Moaddel 1994 | None. | 50.66 (8.95)
Deaths from political violence per thousand people | Taylor and Jodice 1983 | Summed for years 1973–1977. .0001 was added to all cases (to eliminate zeros) and the resulting number was logged. | −6.70 (2.47)

**Control and Dependent Variable**
Scientific authorships per thousand people | ISI 1974–1986 | Logged. | −1.16 (2.13)

**Other Dependent Variables**
Social science authorships per thousand people | ISI 1972-1989 | Psychology and Economics authorships were subtracted. .0001 was added to all cases (to eliminate zeros) and the resulting number was logged. | −3.10 (2.00)
Economics authorships per thousand people | ISI 1972-1991 | .0001 was added to all cases (to eliminate zeros) and the resulting number was logged. | −5.59 (2.31)

### REFERENCES


