

## **Collectivism and Governmentally Initiated Restrictions: A Cross-Sectional and Longitudinal Analysis Across Nations and Within a Nation**

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**COLLECTIVISM AND  
GOVERNMENTALLY INITIATED RESTRICTIONS**  
**A Cross-Sectional and Longitudinal Analysis**  
**Across Nations and Within a Nation**

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This article provides evidence for a link between cultural collectivism and indexes of governmentally initiated restriction both across nations and within one nation, both cross-sectionally and longitudinally. In Investigation 1, across U.S. states, an index of legislative restriction is positively related to an index of collective behaviors. In Investigation 2, across nations, an index of political restriction is positively related to measures of national cultural collectivism. In Investigation 3, longitudinal analyses suggest that cultural measures predict restriction better than vice versa, although this evidence is stronger and more consistent across nations than across states. The present findings are discussed in terms of their contribution to understanding the relationship between culture and politics.

**Keywords:** collectivism; culture; legal restriction; politics

The only part of the conduct of anyone for which he is amenable to society is that which concerns others. In the part which merely concerns himself, his independence is, of right, absolute. Over himself, over his own body and mind, the individual is sovereign.

—John Stuart Mill

Neither must we suppose that any one of the citizens belongs to himself, for all belong to the state, and are each of them a part of the state, and the care of each part is inseparable from the care of the whole.

—Aristotle

**Aristotle (1927) and Mill (1983) present** two strikingly different visions of the individual's relation to the state and thereby illustrate the potential tension between individual freedom and prescriptive societal power. Aristotle's answer to this dilemma places ultimate importance on the state. People, he argues, do not belong to themselves. As individual parts of the human body are dependent on and thus (in a sense) belong to the other parts, so too individual humans depend on the whole of society. On the contrary, Mill's answer places ultimate

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importance on the individual. People, he counters, belong to themselves and themselves alone.

The purpose of the present paper is not to solve this ancient dilemma. Rather, the current aim is to provide a theoretical and empirical rationale arguing that expressions of these two political philosophies are linked to a construct that has dominated at least a decade of social psychological research on the study of cross-cultural differences: individualism/collectivism. In particular, this analysis explores the relation between cultural collectivism and indexes of governmentally initiated restriction.

#### **INDIVIDUALISM/COLLECTIVISM AND GOVERNMENTALLY INITIATED RESTRICTIONS**

We chose to focus here only on measurements that have traditionally been considered as indicators of individualism or collectivism for two reasons. (a) As we outline below, collectivism is clearly conceptually related to the acceptance or rejection of governmentally initiated restriction. This conceptual tie can perhaps serve as a bridge between politics and culture. (b) Additionally, this narrow focus allowed us to maintain some theoretical (or at the very least rhetorical) coherence across very discrepant samples and methods. In the present set of three investigations, we look at relationships between political and cultural structures across two different samples with different levels of analysis (within vs. across nations) and across two different time frames. Thus, focusing only on measurements that have traditionally been considered collectivism measurements strengthens the ties we can draw between studies. In Investigations 2 and 3, for example, we could have broadened our focus to include other Hofstede dimensions (besides collectivism) that also might be related to political restriction, such as power distance. But, although potentially interesting, inclusion of these additional variables also clouds the conceptual comparison we hope to draw across studies. It is not as clear, perhaps, what these less studied variables mean or how exactly they relate to collectivism per se (indeed, Hofstede's power distance factor may simply be another instantiation of collectivism, as the two are highly related—although, the way it is conceived conceptually does not necessarily map onto this empirical relationship, (see Hofstede, 1980). Thus, we eschew the potential advantages of broadening our focus to maintain a clearer theoretical coherence.

What, then, is individualism/collectivism? Admittedly, although collectivism has been one of the dominant constructs in cross-cultural psychology, defining it can be a contentious task. Triandis (1996), rather than defining collectivism/individualism as a simple unitary construct, portrayed individualism and collectivism as syndromes of constructs that tend to co-occur. In medicine, syndromes are defined by sets of symptoms that tend to occur together, even though the reason for their co-occurrence may not always be understood. The collectivist syndrome includes the following symptoms: defining the self as interdependent, giving precedence to in-group goals, expecting norms rather than attitudes to guide behavior, and engaging in communal rather than exchange relationships. Individualism is defined by the opposite set of symptoms. Triandis' discussion, of course, includes much more subtlety than this brief summary allows, but for the current discussion, the expectations for norm-guided behavior within collectivism and attitude-guided behavior in individualism are particularly relevant.

Triandis' (1995) argument that collectivists expect norms rather than attitudes to guide behavior suggests that this psychological construct may manifest itself in legislative decisions. Regions in which legislators are predominantly collectivist may more frequently view

legislation as an acceptable form of normative influence on behavior. Likewise, collectivists may be more ready to accept restrictive legislation as an acceptable expression of norms guiding behavior. Individualistic legislators may tend to be less willing to impose restrictive legislation because of fundamental beliefs that to the extent possible, attitudes should guide behavior.

Others, too, have suggested that collectivism, or at least particular streams of collectivism, may create particular expectations of individuals to be guided by norms. Kagitcibasi (1997), in her extensive review of the individualism and collectivism constructs, distinguished “normative individualism/collectivism” from relational collectivism. In normative collectivism, “individual interests are to be subordinated to group interests” such that individuals follow group norms and expectations (Kagitcibasi, 1997, p. 34). This distinction is also echoed in discussions of vertical collectivism. Vertical collectivism emphasizes a hierarchical structure in which the power is unevenly distributed among the levels of the hierarchy (see Triandis, Chen, & Chan, 1998; similar distinctions between cultural constructs have been made by other researchers, e.g., Hofstede, 1980; Smith, Dugans, & Trompenaars, 1996). Those in positions of status are given greater authority over the behavior of others, and those not in positions of authority are expected to follow the prescriptions of the group. In contrast, horizontal collectivism involves identification with groups where all members are viewed as equals. Thus, this thesis of a relation between collectivism, or at least a particular type of collectivism, and the acceptance of prescriptive norms for behavior (as opposed to the belief that personal attitudes should guide behavior) rests on a large body of prior examination of this issue. One could also argue, however, that horizontal collectivism and Kagitcibasi’s (1997) related construct of relational collectivism may also promote governmentally initiated restrictions. These constructs represent identification with groups of equal power peers. This form of identification may promote group rights even at the expense of individual rights. Thus, relational and horizontal collectivism may likewise be associated with restrictions on individual behavior for the sake of group well-being.

#### THE RELATIONSHIP BETWEEN POLITICAL AND CULTURAL STRUCTURES

Though cross-cultural psychology and political psychology both seem to be growing areas and there has been recognition that the two areas can inform each other (e.g., Hudson & Sampson, 1999), little empirical research, to our knowledge, has been conducted that links them directly together. Given the potential theoretical overlap between cultural collectivism and governmentally initiated restriction, it is worth trying to bridge the conceptual and empirical gap that currently exists between them. But first, let’s step back and look at the relationship between politics and culture in general.

*The definition of culture.* It is by no means an easy task to pinpoint a scientifically useful definition of *culture*. At the broadest psychological level, a culture is a group that shares some aspect of psychology that is not shared (or is notably less shared) by other groups; the shared elements can include shared symbols and meanings (Geertz, 1973, as cited in Ross, 1997), shared values (Schwartz & Bardi, 1997), and shared personality traits (Church, 2000). Thus, culture involves the unique sharing of some psychological attribute (see Schaller, Conway, & Crandall, 2003).

Of course, perfect consensus almost never exists within a group on any given attribute (see Conway & Schaller, 1998), and thus what one considers a culture will still depend in part on fuzzy and arbitrary lines (Hermans & Kempen, 1998; Tweed & Conway, in press;

Tweed, Conway, & Ryder, 1999). Oftentimes, a culture is operationalized by largely artificial boundaries, such as those of a geopolitical unit. Although such operations have their problems, years of cross-cultural research attest that different geopolitical regions do, on average, differ from each other on various psychological and behavioral traits (e.g., Smith et al., 1996). Thus, the present work will use nations (Investigation 2) and U.S. states (Investigation 1) as rough approximations of cultures, with the full acknowledgment that such operations, though meaningful, involve somewhat arbitrary boundaries.

*The shared nature of political systems.* It is interesting that there is one aspect of life that all members within a given geopolitical unit generally do share to a very large extent: namely, the political and legal structure. There may be wide variation as to an individual's attitudes toward and identification with particular laws within a culture; however, there is frequently little variation as to whether or not all people within that culture ostensibly live under the same laws. People may or may not like the laws, and they may or may not obey the laws, but they all must to some degree live with them whether they have a negative or positive impact on their own personal life. Now from the point of view of cultural psychology, this provides a potentially useful piece of information: The political and legal systems within a given nation or state, unlike many other aspects of culture, are very widely shared in some general sense.

Thus, a potentially useful question is this: Is there a relationship between these political systems and the shared cultural psychology that exists within a state? Because all cultures at some level must deal with the tension between individual rights and social welfare, analyses of cultures' political systems along the Aristotle-Mill dimension might yield some useful insights into the collective nature of societies.

*Government influence on culture or vice versa?* How might a relationship between shared cultural beliefs and political systems emerge? Three possibilities are salient. First, it may be that political systems influence cultural beliefs from the top down, so that political change precedes cultural change (so, e.g., perhaps school desegregation policies in the United States causally influenced cultural attitudes toward different ethnic groups). Schwartz and Bardi (1997) note that in spite of the intuitive appeal of the idea that political systems influence cultural beliefs, evidence for this notion is scarce. They then demonstrate that Eastern and Western Europe, on the heels of the fall of communism in Eastern Europe, differed in their orientations toward several values related to individualism/collectivism: Eastern Europeans scored higher than Western Europeans on two collectivistic values (conservatism and hierarchy), and Western Europeans scored higher than Eastern Europeans on two individualistic values (affective and intellectual autonomy). Schwartz and Bardi argue that because Eastern and Western Europe share a great deal of history prior to the communist revolutions, one can interpret the data as a natural experiment. The emergence of communism in Eastern Europe is considered the "manipulation," and all other variables are held roughly constant. According to this view, the communistic political system caused the change in Eastern European culture, suggesting that political structures can influence nonpolitical cultural values relevant to collectivism.

This causal path makes intuitive sense at a conceptual level. Communism is clearly a collectivistic approach to government (Singelis, Triandis, Bhawuk, & Gelfand, 1995). At least to some degree, communism's actual instantiation in the real political world of Eastern Europe may have differed from some of these collectivistic orientations. However, whether considering communism in theory or in practice, as a political system, it seems reasonable

that its collectivistic aspects may have caused a change toward more collectivistic cultural values.

Of course, this interpretation assumes that the causal arrow points in only one direction. A second view of the relationship between culture and politics suggests that cultural dynamics cause political change to emerge from the bottom up. The appropriate cultural context may thus be a necessary precursor to political change. Indeed, theoretical and empirical work from other domains suggests that sometimes, culturally shared attitudes may precede and predict future political change. For example, the emergence of democratic political systems is predicted by prior British colonization, by the dominant national religion, and by ethnic homogeneity (Clague, Gleason, & Knack, 2001). Although far from conclusive, these sorts of culturally relevant factors do offer some indication that political change—even major political change—cannot occur without the proper cultural context. Thus, with respect to the communism study, it is possible that greater collectivism preceded and contributed to the rise of communism in Eastern Europe.

A third view is that the relationship between politics and culture is an incidental byproduct of their relationships to other socioeconomic factors. A modernization view suggests, for example, that economic and industrial growth promotes both individualism (see Ball, 2001, for a review of, and recent challenges to, this viewpoint) and political change (see, e.g., Diamond, 1992). It may be that both politics and culture emerge together from the same economic source and thus neither really has a direct influence on the other. If that is true, then the relationship between politics and culture should be largely accounted for by socioeconomic factors.

Thus, it is not entirely clear from the existing literature whether cultural attitudes might result from or precede change in political systems or whether that relationship might exist because of a common socioeconomic source. The present work hopes to help clarify the nature of this relationship with respect to collectivistic cultural attitudes and behaviors.

#### QUESTIONS DRIVING THE PRESENT RESEARCH

Thus, for us to better understand the relationship between culture and politics in general and collectivism and governmentally initiated restriction in particular, some important unanswered questions remain. Three of these questions underscored the present work: (a) First, how generalizable is the relationship between political systems and individualism/collectivism at a cultural level? (It is worth noting that Schwartz and Bardi [1997] assumed, but did not directly measure, differences between nations on a political dimension. Similarly, Crague et al. [2001] inferred “cultural attitudes” in a broad way from demographic data and made no link to collectivism *per se*.) Will a relationship between political structures and cultural collectivism hold across multiple contexts and across multiple measures? (b) Second, does this relationship hold when accounting directly for demographic variables, such as economic wealth? Although measures of economic wealth are related to measures of cultural collectivism (Hofstede, 1980; Vandello & Cohen, 1999) and political government (Clague et al., 2001; Schwartz & Bardi, 1997), Schwartz and Bardi (1997) did not directly control for such indicators’ affect on the relationship between communism and collectivism-relevant cultural measures. (b) Third, which variable is more causally influential? Do cultural measures predict future political measures or the other way around? To help answer these questions, the present research examined data both across states within one nation (Investigation 1), across nations (Investigation 2), and across time (Investigation 3).

## INVESTIGATION 1: COLLECTIVISM AND GOVERNMENTALLY INITIATED RESTRICTION ACROSS STATES WITHIN ONE NATION

Although sometimes considered the poster child for individualistic nations, the United States is far from devoid of collective behavior. Indeed, within its geopolitical borders, the regions of the United States have considerable variation in their levels of individualism and collectivism. Vandello and Cohen (1999) took advantage of this variation to create the United States Collectivism Index (USCI), which aggregates various behavioral measures of collectivism within each of the 50 U.S. states. Although one of the measures that composes the index is political in nature (Libertarian vote), the majority of the components of the index are based on direct measures of affiliative behavior (such as the percentage of persons living alone). Thus, the index is largely (but not entirely) nonpolitical in nature. This state-level index has adequate internal reliability and has demonstrated theoretically meaningful relationships with other variables, including state poverty levels, measures of “urbanness,” rates of suicide and binge drinking, levels of gender and racial inequality, helping behavior (Vandello & Cohen, 1999), and the pace of life (Conway, Ryder, Tweed, & Sokol, 2001). Furthermore, the USCI correlated positively with self-report survey questions relevant to collectivism. (It is interesting that these surveys also included some questions concerning personal feelings about government intervention. This provides an initial—if indirect—indication that cultural collectivism may be related to political attitudes within the United States.)

Building on this previous work, the purpose of the present article is to further extend our understanding of collectivism into the political realm. In particular, Investigation 1 examines whether, using an index of legal restriction, there is a relationship between governmentally initiated restriction and cultural collectivism at the state level both with and without controlling for demographic variables. The assumption behind this operation is that highly restrictive state laws indicate putting emphasis on the general welfare of the state over the freedom of the individual; less restrictive state laws indicate an emphasis on the rights of the individual over the general welfare of the state.

### METHOD

*Cultural collectivism measure: The USCI.* Vandello and Cohen’s (1999) USCI comprises eight state-level variables: The percentage of people living alone (reverse scored), the ratio of people carpooling to work to driving alone, the ratio of divorces to marriages (reverse scored), the percentage of elderly people living alone (reverse scored), the percentage of households with grandchildren in them, the percentage of people with no religious affiliation (reverse scored), the average percentage of Libertarian votes over four presidential elections from 1980 to 1992 (reverse scored), and the percentage of self-employed people (reverse scored).

*Construction of the Legal Restriction Index (LRI).* To construct an index of legal restriction, state-level information was gathered from two readily available sources: Savageau and Loftus’s (1997) widely popular *Places Rated Almanac* and a 2000 Rand McNally road atlas. From the multiple types of information available in these sources, some fuzzy ad hoc criteria were used to determine which laws would make the item pool. First was interest value and tendency to restrict individual freedom while potentially preserving rights for the group

(e.g., gun control laws restrict individual freedom but may protect the citizenry as a whole; prohibitions on the use of steel-studded tires restrict individual freedom but prevent excess wear of the roadway and thereby preserves the road for others). Second was variability: Laws that had little variability across states were discarded. Third was completeness of information: Laws for which there was not a complete (or nearly complete) set of data were discarded. Given these criteria, 10 items were chosen that represented multiple legal spheres. All variables were coded so that more restrictive laws meant higher scores and then converted to *z* scores ( $\alpha = .54$ ). Three items were cut on the basis of low interitem correlations, lack of clear directional relationship to legal restriction, incomplete data sets, and/or concerns over sufficient variability. This left 7 items in the final index, all of which had complete data sets ( $\alpha = .57$ ):

1. *Handgun licensing*. A combination of four different laws: (a) instant check, (b) federal waiting period, (c) permit to purchase, and (d) owner ID card. These were obtained from Savageau and Loftus (1997); scores were combined in an additive manner, where 4 = *restrictive laws in all cases* and 0 = *no restrictive laws*.
2. *Gun prohibition*. A combination of three different laws, which reflect prohibition of (a) open carry, (b) assault weapons, and (c) concealed carry. Again, these were obtained from Savageau and Loftus (1997); scores were combined in an additive manner, where 3 = *restrictive laws in all cases* and 0 = *no restrictive laws*. Moderately restrictive laws in Savageau and Loftus's table were coded as restrictive laws for the present purpose.
3. *Open container*. Open container driving laws prohibit open containers of alcohol in vehicles (obtained from Savageau & Loftus, 1997). Those states that have the laws were scored a 1, and states without the laws a 0.
4. *Speed limit* (inverse scored). The maximum speed limit was entered in each state (obtained from *Rand McNally Road Atlas*, 2000); speed limit is here considered inversely related to legal restriction so that higher numbers mean the state is less restrictive.
5. *Studded tires* (obtained from *Rand McNally Road Atlas*, 2000). States that have laws prohibiting studded tires year round were scored a 2; states that have laws prohibiting studded tires part of the year were scored a 1; and states that permit studded tires year round were scored a 0.
6. *Sales taxes* (obtained from Savageau & Loftus, 1997). Indicates statewide base tax rates. This score ignores additional taxes levied by local governments as well as exemptions for food and drugs.
7. *Income taxes*. Savageau and Loftus (1997) computed an estimate for each state of how much a two-income couple with \$60,000 income and two children would typically pay in income taxes. Savageau and Loftus reported a standardized score; it is this score that is used to estimate income taxes by state.

After being converted to *z* scores, the above seven scores were averaged to create an overall LRI for each state. The LRI for the 50 states and the District of Columbia (transformed so as to be anchored by 0 and 100) is presented in Table 1.

*Demographic variables/voting behavior*. Demographic variables that are empirically or conceptually related to collectivism (see Hofstede, 1980; Vandello & Cohen, 1999) were included to test the modernization view that any relation between culture and politics is accounted for by their shared relationships with other factors. (1 to 3) Three of these pertained to economic wealth/industrialization, which Vandello and Cohen (1999) found to be associated with individualism (the percentage of persons within the state who fell below the poverty line in 1994, per capita income by state in 1995, and gross state product in 1994). (4) Percentage of persons who fell within a minority group in 1994. (5 to 6) Two indicators pertained to urbanness/density, which Vandello and Cohen found to be associated with collectivism: percentage of urban population within a state in 1990 and state population density.

**TABLE 1**  
**Investigation 1: State Rankings on the Legal Restriction Index**

<i>Rank</i>	<i>State</i>	<i>Score</i>
1	District of Columbia	100.0
2	Hawaii	85.6
3	Illinois	80.6
4	South Carolina	73.3
5	Minnesota	67.5
6	New Jersey	66.8
7	New York	63.7
8	Michigan	63.4
9	Ohio	63.0
10	Maryland	58.4
11	Iowa	57.3
12	Massachusetts	56.7
13	Wisconsin	56.5
14	Utah	51.8
15	Georgia	51.5
16	Oklahoma	51.5
17	California	50.1
18	Kansas	50.1
19	Connecticut	48.6
20	Maine	47.7
21	Idaho	43.2
22	Virginia	42.2
23	Rhode Island	41.0
24	Indiana	40.7
25	Nevada	40.5
26	Mississippi	39.3
27	Pennsylvania	39.2
28	Alabama	38.8
29	North Dakota	37.9
30	West Virginia	37.6
31	Florida	36.4
32	North Carolina	36.2
33	Louisiana	35.2
34	Kentucky	35.0
35	Tennessee	33.7
36	Arkansas	32.9
37	Washington	31.5
38	Missouri	31.0
39	Alaska	28.5
40	New Mexico	28.4
41	Oregon	28.2
42	Nebraska	28.2
43	Vermont	26.7
44	Delaware	25.2
45	Texas	24.0
46	Arizona	19.6
47	South Dakota	19.4
48	Colorado	13.9
49	New Hampshire	8.6
50	Montana	8.0
51	Wyoming	0.0

NOTE: Higher scores = more legal restriction. Scores transformed so as to be anchored by 0 and 100.

(7) An index of violent crime comprising murder and rape per capita (equally weighted) from 1995. All of the above demographic statistics were obtained through the United States Bureau of the Census either in Statistical Abstracts of the United States or via the Internet.

In addition, voting behavior (percentage of persons who voted for the Democratic party) in six U.S. Presidential elections (dating from 1980 to 2000) was obtained from the Internet (primarily <http://www.multied.com/elections/index.html>). Although the degree that the two dominant political parties in the United States support legal restriction varies across issues, the Democratic party tends to support greater government intervention. Thus, it was expected that states with more legal restriction would be more likely to vote Democratic.

## RESULTS

*The legal restriction and collectivism relationship.* The LRI was strongly positively correlated with the collectivism index,  $r(51) = .47, p = .001$ . This relationship remained strong even when simultaneously controlling for minority percentage, urban percentage, state population density, three measures related to economic wealth or industrialization, and violent crime ( $r = .48, p = .001$ ). Partial correlations were also performed for each of the demographic variables separately; none of the seven individual demographic variables accounted in any meaningful way for the relation between collectivism and restriction. Even when controlling for the strongest covariate, urban percentage, the restriction-collectivism correlation remained strong and significant (partial  $r = .43, p = .002$ ).<sup>1,2</sup>

*Demographic variables/voting behavior.* The LRI was positively correlated to the percentage of minority persons within a state,  $r(51) = .38, p = .006$ , the percentage of persons within a state that live in urban (vs. rural) areas,  $r(51) = .40, p = .003$ , state population density,  $r(51) = .46, p = .001$ , personal income level per capita,  $r(51) = .44, p = .001$ , and gross state product per capita,  $r(51) = .41, p = .003$ . It was also positively but less strongly correlated with violent crime,  $r(51) = .27, p = .059$ . The LRI was largely uncorrelated with the percentage of persons living below the poverty level,  $r(51) = .09, p = .551$ . Legal restriction was positively correlated with Democratic Presidential vote across all six elections (mean  $r = .51$ ; all  $ps < .001$ ). Collectivism was also significantly positively correlated with Democratic vote in four of the six elections, although the overall pattern was substantially weaker (for all six elections, mean  $r = .22$ ).

## DISCUSSION

Investigation 1 suggested that there is a relationship between legislative restrictions and the collective nature of the aggregate behaviors of persons who abide under that legislation. This suggestion goes beyond the mere observation that people obey laws; it would be unremarkable perhaps to find, say, that states with strict divorce laws have lower divorce rates. Rather, it is particularly noteworthy that none of the laws measured by the LRI has any direct link to the behaviors measured in the collectivism index (USCI). This suggests that perhaps cultural collectivism is expressed not only in attitudes and behaviors but also in the creation of more restrictive laws. Furthermore, the relationship between restrictive legislation and cultural collectivism in the present study was not accounted for by basic demographic factors, such as urbanness, minority percentage, wealth, or violent crime rates. Thus, no support was found for the view that politics and culture may be associated because of their mutual

relationships with other variables. They both were related to similar other variables, but those relationships did not account for their direct relationship to each other.

Of course, it is worth keeping in mind that the laws that compose the LRI reflect laws instituted by elected representatives. When laws are dictated from the top down or enforced on an unwilling segment of the population, a different relationship may emerge between political and cultural structures. Consider, for example, laws addressing issues such as crime, abortion, and the death penalty, laws that arguably address behavior by people who could be considered to be in low power or low status positions in society. These sorts of laws generally apply to smaller portions of the population and, importantly, often not the portion to which the voter who favors them belongs. This kind of more specifically targeted legal restriction may yield a completely different pattern of results than those obtained with the current LRI. As a result, by no means is the present index intended to be the final word on the concept of legal restriction in the United States. Rather, the LRI is conceived of as a useful starting point toward our understanding legal restriction and collectivism in the United States.

Similarly consistent with expectations, the LRI was positively related to the percentage of a state's population that was a member of an ethnic minority group; in the United States currently, existing minority groups are generally considered to be more collectivistic than the European-American majority (see Conway, Ryder et al., 2001; Vandello & Cohen, 1999). In addition, consistent with previous research on the USCI (Vandello & Cohen, 1999), the LRI correlated positively with the percentage of urban population within a state. This suggests that, similar to cultural collectivism, governmentally initiated restriction increases as people are forced together (see Vandello & Cohen, 1999, for a discussion). The primary surprise involved material wealth/industrialization indicators: Unlike previous work using measures of cultural collectivism (Hofstede, 1980; Vandello & Cohen, 1999), the LRI was positively correlated with measures indicative of material wealth. This may perhaps argue that more collectivistic governmental systems are not necessarily doomed to poorer material circumstances—and may in fact be more likely in the long run to produce material wealth—a position that certainly has many advocates (see Ball, 2001, for a review).

Even though the material wealth finding was unexpected, all of the correlations reported above provide evidence that not only is the LRI related directly to cultural collectivism but it is also a useful predictor of other important demographic and theoretical constructs.

## **INVESTIGATION 2: COLLECTIVISM AND GOVERNMENTALLY INITIATED RESTRICTION ACROSS NATIONS**

Investigation 1 is limited by (a) the fact that its results are based on data entirely within one nation, (b) the fact that its measure of legal restriction focuses on laws instituted by elected representatives and likely to apply to large portions of society, and (c) the fact that it only looks at a relationship at one particular point in time. Investigation 2, in part, addressed these weaknesses. Like Investigation 1, Investigation 2 used an index of legal restriction, as well as previously constructed indices of cultural collectivism, but also added an additional indicator of governmentally initiated restriction: a measure of political freedom. Investigation 2 also examined these relations across nations representing a broad variety of political structures. Furthermore, Investigation 2 expanded the time periods during which the relationship between political and cultural structures was explored.

This second investigation addressed a cross-validity problem common among cross-cultural studies. Many cross-cultural studies examine relations between variables across nations, but these studies are difficult to cross-validate because of the limited number of nations for which data are usually available. Cross-validation is, however, sometimes possible by looking at the relations between variables both across states within a nation and across nations. That procedure is being followed here (see also Conway, Ryder et al., 2001, for further discussion of this cross-validation method).

## METHOD

*Collectivism.* To assure that any findings were not due to the idiosyncratic tendencies of a single indicator of national collectivism, three different measures of national collectivism representing different conceptions of the construct (and occurring across two different eras) were used.

The first two measures were relevant to the 1990s era. (a) Smith et al.'s (1996) index of "utilitarian involvement/loyal involvement" was used. Smith et al. argued that their index of utilitarian involvement/loyal involvement conceptually mirrored Hofstede's individualism construct discussed below (indeed, in their sample, the two indexes were highly correlated,  $r = .55$ )<sup>3</sup> but was more clearly related to horizontal forms of collectivism in which groups are valued highly but submission to group demands is not necessarily expected. Thus, this index served as the primary horizontal cultural collectivism index for the 1990s era in the present study. (b) In addition, Smith et al. published a related index of egalitarianism/conservatism that they argued was more closely related to vertical forms of collectivism, in which individual members are expected to submit to group demands. As a result, this index was inverse scored (so that higher scores represent higher conservatism) and included as the vertical cultural collectivism index for the 1990s era. (c) The last index was relevant to the 1960/1970 era. In 1980, Hofstede published a now-famous nation-level index of individualism from data collected from 1967 to 1973. This index, which Smith et al. (1996) argued was ambiguous with respect to the horizontal/vertical dimension, was reverse scored (for ease of presentation) and used as a cultural collectivism index from the 1960s/1970s era.

*Governmentally initiated restriction indices.* Also, two different types of indexes of governmentally initiated restriction were used in this study: Indexes of political restriction, which have received extensive use in prior studies, and indexes of legislative restriction created for the current analyses.

(a) The political restriction indexes were derived by averaging the Freedom House (2001) indexes for political rights and civil liberties. Freedom House, founded by Eleanor Roosevelt (among others), is a nonprofit, nonpartisan organization that opposes oppressive dictatorships and supports democracy. The Freedom House index is considered one of the major indicators of nations' political freedoms and is strongly positively correlated with other such indicators (Vanhanen, 2000). As a result, it has been used extensively in previous research as an indicator of political freedom, democracy, or human rights (e.g., Clague et al., 2001; Dixon & Senese, 2002; Vanhanen, 2000). Conceptually, this political restriction index represents the amount of political freedom that is experienced by citizens within a given nation, with higher scores indicating less freedom.<sup>4</sup>

The Freedom House indexes have been constructed using similar criteria since 1972, and thus, we computed separate indexes at two different time periods: 1972 and 1990 to 1991. In

Investigation 2, the 1972 index was used to test the relationship between political restriction and Hofstede's 1960/1970 collectivism measure, and the 1990-1991 index was used to test the relationship between political restriction and the two 1990s-era collectivism measures. (Investigation 3 also takes advantage of these measures across different eras by doing across-time analyses.)

To create a LRI for the 1990-2000 era, three different sets of laws were used. (a) First, laws pertaining to the legal restriction of gun use were averaged (United Nations, 1997). (b) Second, the average of two road safety laws—maximum speed limit laws (National Motorists Association, 2001) and the official national blood alcohol limit for DUI arrests (National Highway Traffic Safety Administration, 2000)—was computed. (c) Third, the average of income and sales tax percentages was computed (each computed by averaging the low-end and high-end percentages; Tax-news.com, 2001). Only four nations had complete sets of laws across all three components of the LRI. Thus, to compute an overall index of legal restriction, the three LRIs were standardized, and the mean of these standardized scores was computed irrespective of the number of available scores. (Thus, if a nation had only tax laws, its score would be its tax law score; if a nation had both tax and road safety laws, its score would be the average of these two scores; and so on.) It is worth noting that this overall index is biased in favor of the laws (tax and road safety) for which more national data were available. Furthermore, these three LRIs were either largely uncorrelated ( $r_s = -.04$  and  $-.06$ ) or negatively correlated ( $r = -.32$ ,  $p = .059$ ) with each other and as such do not form a coherent index of legal restriction. Because of the difficulties associated with the overall index, the three legal restriction scores were also analyzed individually. (No legal restriction data were obtained from years prior to the 1990s, and as a result, no across-time analyses could be conducted for variables related to legal restriction in Investigation 3.)

It is worth noting that the legal restriction and political restriction index potentially differ on the horizontal and vertical dimension of collectivism. The political restriction index is a measurement of the vertical dimension: It describes the degree that the population in a nation has laws forced on it without choice from the top down. The LRI in Investigation 2, however, is a little less clear. On one hand, the laws used in Investigation 2, like the laws from Investigation 1, are highly horizontal in nature: In the main, they apply to a large percentage of the population rather than being applied especially to low-status people. On the other hand, because many of the nations under study are not democracies, many of these laws were not decided on by the population at large. Thus, although the laws may be fundamentally horizontal, in many cases, the process by which they were enacted was entirely vertical in nature. However, the LRI is, at the very least, clearly more conceptually horizontal than the political restriction index. Given this difference, it is perhaps unsurprising that the two indexes were slightly negatively correlated,  $r(73) = -.13$ ,  $p = .271$ .

*Gross domestic product (GDP) per capita.* One theory of where political freedom comes from (called the "modernization school") is that it is the direct result of economic and social development (e.g., Diamond, 1992; Lipset, 1959; see Clague et al., 2001, for a review). Because indicators of such economic industrialization are also related to collectivism across nations (see Hofstede, 1980; Schwartz, 1990), we included a measurement of GDP per capita at each timeframe. To include as comprehensive a set of nations as possible, we used two different sources for these data (Heston, Summers, & Aten, 2002; Hughes, 2004). The two sources were highly correlated in both the early 1960s ( $r = .92$ ) and 1990 ( $r = .94$ ). At each time frame, an average for the two sources was computed by converting each gross national product per capita source to a  $z$  score and then averaging across the two sources'

**TABLE 2**  
**Investigation 2: Correlations Between Governmentally Initiated**  
**Restriction and Cultural Collectivism Across Nations**

<i>Political Measure</i>	<i>Cultural Measure</i>		
	<i>1990s Horizontal Collectivism</i>	<i>1990s Vertical Collectivism</i>	<i>1960s/1970s Hofstede Collectivism</i>
Political restriction	.18	.66****	.64****
Legal restriction	-.19	-.17	—
Gun restriction	.54****	-.35*	—
Tax	-.41***	-.33**	—
Road safety	-.14	.25	—

NOTE: Correlations between 1990s horizontal/vertical collectivism and political restriction use the 1990-1991 political restriction index. Correlation between Hofstede collectivism (1960s/1970s) and political restriction uses the 1972 political restriction index. Legal restriction = average of gun restriction, tax, and road safety laws. For gun restriction,  $n = 26$ ; for tax,  $n = 35$ ; for road safety,  $n = 34$ ; for the legal restriction,  $n = 36$ ; for political restriction,  $n = 42$ .

\* $p < .10$ . \*\* $p < .07$ . \*\*\* $p < .05$ . \*\*\*\* $p < .01$ .

scores. (Thus, nations included in only one source had a score equal to their  $z$  score for that one source.) This final index provides a good estimate of nations' GDP per capita during 1960 to 1962 and again in 1990.

## RESULTS

Table 2 presents the correlations between the political and cultural measures. During the 1990s era, there was a positive correlation between the political restriction index and the two cultural collectivism indexes. This correlation was especially strong for vertical cultural collectivism ( $r = .66, p < .001$ ), and this political restriction–vertical cultural collectivism correlation remained moderately strong and significant even when controlling for GDP per capita (partial  $r = .38, p = .013$ ). The relationship between the political restriction index and horizontal cultural collectivism was also positive but weaker ( $r = .18$ ; partial  $r$  controlling for GDP per capita = .10).

Similarly, during the 1960-1970 era, a strong positive correlation emerged between political restriction and cultural collectivism ( $r = .64, p < .001$ ). This correlation also remained moderately strong and significant when controlling for GDP per capita ( $r = .43, p < .001$ ).

The results were less clear for the LRI. The low internal consistency of the national LRI as described above suggests that the measure may lack construct validity, but we have nonetheless included the results both for the sake of completeness and because one could make an argument that high internal consistency in this case may not be necessary; in particular, although summing individual laws to create an index of restriction makes sense, one would expect lower consistency among laws than one would usually find among questions on a questionnaire. Overall, there was a mild negative correlation between the LRI and the two cultural collectivism measures. However, this correlation differed markedly for each of the three types of laws. For horizontal cultural collectivism, strongly positive correlations emerged for the gun laws as expected, but negative correlations emerged for tax laws. For vertical cultural collectivism, correlations were negative for gun and tax laws but positive for road safety laws.

## DISCUSSION

Like Investigation 1, Investigation 2 provided evidence that an index of governmentally initiated restriction could be positively related to measures relevant to cultural collectivism. This effect was impressively robust, occurring for two different operations of collectivism across two different eras. Furthermore, unlike what the modernization approach to political freedom might expect (see, e.g., Clague et al., 2001), the relationship between cultural collectivism and political freedom remained significant in both cases even when an economic indicator strongly associated with collectivism was directly controlled for.

It is noteworthy that in the 1990s, political restriction was strongly associated with vertical collectivism. The political restriction index, unlike the measurement used in Investigation 1, measures the vertical dimension of governmentally initiated restriction. This suggests that the relationship between governmentally initiated restriction and cultural collectivism does not exclusively occur for horizontal markers of political entities. It is also noteworthy that this vertical measurement was much more positively correlated with a vertical measurement of cultural collectivism than a more horizontal measurement. This sensibly suggests that perhaps the relationship between political and cultural structures may be partially dependent on a very specific match between them: Vertically restrictive political structures may have a stronger relationship with vertical cultural structures, whereas horizontally collective political structures may have a stronger relationship with their horizontal cultural counterparts.

The measure of legal restriction did not, however, produce the expected correlation with collectivism. One could suggest that the lack of complete data on legal restriction for most countries handicapped the index, but our further examination revealed that the subcomponents varied in their relation with collectivism. Possibly constructing an index of legal restriction across nations is more complicated than doing so across states within a nation because specific laws have different meanings across widely differing political contexts. We will return to this issue in the general discussion.

### INVESTIGATION 3: WHICH COMES FIRST: POLITICAL OR CULTURAL STRUCTURES?

Investigation 3 examines whether cultural collectivism or governmentally initiated restriction tends to be more predictive of change in the other. In particular, the investigation examines the predictive power of cultural collectivism and governmentally initiated restriction across time (1970 and 1990). The logic is as follows: If Variable A (e.g., cultural collectivism) causes changes in Variable B (e.g., governmentally initiated restriction), then Variable A at Time 1 will predict variable B at Time 2 even after controlling for Variable B at Time 1. This analysis alone does not provide conclusive evidence for causal relations but can help determine which causal direction (A causing B or B causing A) is more plausible.

## METHOD

*State collectivism: 1970 to 1990.* A truncated measure of the USCI was used for the cross-lagged correlations across U.S. states because not all items in the original USCI could be obtained for each state for 1970 and 1990. To measure cultural collectivism, population statistics were obtained from the U.S. Census of Population for 1970 and 1990 for four relevant

variables. Two of these variables had direct corollaries in the original USCI (marriage and divorce ratios, ratio of carpoolers to drivers), one was an indirect corollary of an item on the USCI (people per household), and one did not have a clear corollary in the original index (percentage of persons living in group housing). To confirm these variables as valid measurements of cultural collectivism, the 1990 scores for each variable were correlated with the overall USCI score. It is not surprising that the three variables most directly related to items in the original USCI were positively correlated with the overall USCI, suggesting that they reflect the cultural collectivism construct: persons per household ( $r = .62$ ), ratio of carpoolers to drivers ( $r = .74$ ), and marriage and divorce ratio ( $r = .14$ ). However, the variable with no clear direct corollary in the original USCI item pool, group housing, was negatively correlated with the USCI ( $r = -.28$ ). As a result, the group housing variable was dropped. The three remaining variables were converted to  $z$  scores and averaged within each time frame to produce a Truncated USCI (TUSCI) for both 1970 ( $\alpha = .51$ ) and 1990 ( $\alpha = .16$ ).

The TUSCI was fairly strongly correlated with itself throughout time ( $r = .67, p < .001$ ); thus, although relatively stable throughout time, enough variability is present (55.2% unaccounted for) to suggest that real change occurred during the time period under investigation.

*State legal restriction: 1970 to 1990.* Also, a truncated measure of the LRI was used for the cross-lagged correlations across U.S. states because not all items in the original LRI could be obtained for each state for 1970 and 1990. To measure legal restriction, legal statistics were obtained for the 1970 and 1990 to 2000 time frames from the *Sourcebook of Criminal Justice Statistics* for three relevant variables (in one instance, 2002 marijuana laws, these statistics were obtained from an Internet news source). One of these variables had a direct corollary with an item in the original LRI (gun laws from 1975 and 1995), whereas two did not (marijuana laws from 1975 and 2002 and privacy laws, reverse scored, from 1977 and 1992). To confirm these variables as valid measurements of legal restriction, the 1990-2000 scores for each variable were correlated with the overall LRI score. It is not surprising that the variable with the clear direct corollary to the original LRI was strongly positively correlated with that overall index ( $r = .65$ ). Marijuana laws were largely uncorrelated ( $r = .04$ ) with the original LRI, whereas privacy laws were negatively correlated ( $r = -.22$ ). Because of not only this negative correlation but also potentially less direct conceptual relevance to legal restriction, privacy laws were dropped. Despite the small correlation with the LRI, marijuana laws were included in the indexes because of their clearer conceptual relevance to the legal restriction construct. Thus, gun laws and marijuana laws were converted to  $z$  scores and averaged within each timeframe to produce a Truncated LRI (TLRI) for both the 1970 ( $\alpha = -.12$ ) and 1990-2000 ( $\alpha = .28$ ) time frames.

The TLRI was moderately correlated with itself throughout time ( $r = .54, p < .001$ ); thus, as with the TUSCI, although relatively stable throughout time, enough variability is present (70.8% unaccounted for) to suggest that real change occurred during the time period under investigation.

*National collectivism.* Hofstede's (1980) index used in Investigation 2 served as the cultural collectivism index from the 1960s/1970s era in the present study. The Smith et al. (1996) scales indicating horizontal collectivism and vertical collectivism also used in Investigation 2 served as recent indicators of collectivism. The indices of cultural collectivism at the national level were developed independently and, as such, contain many nonoverlapping countries. This presents a dilemma for cross-lagged correlations: If one uses all of the available information to compute correlations (i.e., pairwise exclusions), then the nations that

compose the sample for each correlation are different, resulting in differing *ns*. Furthermore, this makes partial correlations very difficult to interpret, as it is hard to know if any reduction indicates a shift to a different sample or a legitimate mediation effect. Therefore, the present strategy is to present zero-order correlations excluding both pairwise and listwise and only presenting partials that use listwise exclusions. (For these listwise correlations,  $n = 33$ .)

The 1960s/1970s era cultural collectivism index was correlated fairly strongly throughout time in our sample with both the 1990 horizontal collectivism ( $r = .72, p < .001$ ) and 1990 vertical collectivism ( $r = .70, p < .001$ ) indices. Although this suggests that cultural collectivism is relatively stable throughout the time periods covered here (and implicitly validates the use of these different measurements of the same construct), enough variability is again present (roughly 50% unaccounted for) to make subsequent predictive tests meaningful.

*National political restriction.* The Freedom House (2001) indices of political freedom have been constructed using similar criteria since 1972, and so both 1990-1991 and 1972 indexes of political restriction were used (as constructed in Investigation 2) for the 1990 and 1970 eras, respectively. This political restriction index was fairly strongly correlated with itself throughout time ( $r = .66, p < .001$ ); however, although some stability exists, enough variability is again present (56.4% unaccounted for) to suggest that real change in political restriction occurred throughout time. Is that change accounted for by cultural collectivism? (The data required to construct the national legislative restriction index for the earlier era were not available, so this index was not used in the cross-lagged correlations.)

## RESULTS

*Cross-lagged correlations among states.* Cross-lagged longitudinal correlations on the truncated legal restriction and collectivism indexes were examined to assess which variable predicted future changes in the other and to assess the possibility of causal relations. Specifically, the truncated legal restriction scores from 1970 were correlated with the 1990 truncated collectivism scores, and the truncated collectivism scores from 1970 were correlated with the 1990 truncated legal restriction scores.

Zero-order correlations suggested that 1970 collectivism scores were predictive of future legal restriction scores,  $r(51) = .36, p = .009$ . The 1970 legal restriction scores were also predictive of future collectivism scores although not as strongly,  $r(51) = .27, p = .057$ . Table 3 summarizes the cross-lagged correlations. However, when controlling for their initial relationship in 1970, a greater difference emerged between the predictive validity of the two indexes: Whereas 1970 collectivism scores were still moderately predictive of future legal restriction scores (partial  $r = .27, p = .057$ ), the 1970 legal restriction scores were only mildly predictive of future collectivism scores ( $r = .12, p = .395$ ).<sup>5,6</sup>

*Cross-lagged correlations among nations.* Using pairwise exclusions, 1960-1970 cultural collectivism was strongly predictive of future political restriction,  $r(62) = .53, p < .001$ . On the other hand, 1960-1970 political restriction was not predictive at all of future horizontal cultural collectivism,  $r(42) = -.03, p = .832$ .

Using listwise exclusions, both of the above relationships were very strong ( $rs = .73$  and  $.65$ , respectively). However, when controlling for the initial relationship between political restriction and cultural collectivism, the 1960-1970 cultural collectivism measure predicted

**TABLE 3**  
**Investigation 3: Cross-Lagged Correlations (Zero-Order and Partial) Between Governmentally Initiated Restriction and Cultural Collectivism From 1960/1970 to 1990/2000**

Correlation	Type of Correlation	
	1960/1970 Cultural With 1990/2000 Political	1960/1970 Political With 1990/2000 Cultural
Across states		
Zero-order	.36***	.27*
Partial	.27*	.12
Across nations		
Horizontal collectivism		
Zero-order	.53***	-.03
Partial	.39**	.11
Vertical collectivism		
Zero-order	.53***	.74***
Partial	.39**	.17

NOTE: Both across nations and across states, partial correlations control for the initial (1960/1970) relationship between political and cultural structures. Across nations, zero-order correlations use listwise exclusions, and partial correlations use pairwise exclusions (see text for more details). Also across nations, “1960/1970 Cultural With 1990/2000 Political” correlations are identical for horizontal and vertical cultural measures because the 1960/1970 cultural collectivism index did not distinguish between these two dimensions.

\* $p < .07$ . \*\* $p < .05$ . \*\*\* $p < .01$ .

future political restriction ( $r = .39, p = .027$ ), but 1960-1970 political restriction was not very predictive of future horizontal cultural collectivism ( $r = .11, p = .562$ ).

Parallel analyses using vertical cultural collectivism as the cultural measure yielded similar results for the partial correlations. Although, using pairwise exclusions, cultural collectivism was somewhat less predictive of future political restriction than vice versa ( $r_s = .53$  and  $.74$ ), partial correlations using listwise exclusions suggested that this was due in large part to the initial relationship between the two variables. When controlling for this initial relationship using listwise exclusions, 1960-1970 cultural collectivism was more predictive of future political restriction ( $r = .39, p = .027$ ) than 1960-1970 political restriction was of future vertical cultural collectivism ( $r = .17, p = .349$ ). Please see Table 3 for a summary of longitudinal analyses.

## DISCUSSION

When controlling for their initial relationship at the state level, a measure of cultural collectivism predicted future legal restriction more strongly than legal restriction predicted future cultural collectivism—given enough time. Furthermore, the nation-level data, even more strongly than the state-level data, suggest that measures relevant to cultural collectivism predicted changes in restriction better than vice versa. This pattern is at least suggestive that cultural structures may contribute to the emergence of future political structures more strongly than the other way around. This suggests that sociopolitical change happens more from the bottom up than the top down.

## GENERAL DISCUSSION

### RELATIONSHIP BETWEEN CULTURAL COLLECTIVISM AND GOVERNMENTALLY INITIATED RESTRICTION

Taken together, the results of the three investigations provide evidence of a relation between governmentally initiated restriction and national culture. In Investigation 1, a measure of legal restriction was positively related to a measure of behavioral collectivism across the U.S. states. In Investigation 2, a measure of political restriction was positively related to two different measures of collectivism at two different points in time. Across both investigations, this relationship held even when controlling for relevant socioeconomic factors. In Investigation 3, cultural collectivism predicted future governmentally initiated restriction both across nations and across U.S. states better than vice versa. This work thus gives some life to previous researchers' speculations about the relationship between collectivism and politics (Singelis et al., 1995; Triandis & Gelfand, 1998).

Of course, one of the problems in the present work is that the LRI did not show the same pattern of results across nations as it did across the U.S. states. Why might this be? There are a number of possibilities. First, the index across nations is less reliable. Because of nonmatching samples of nations across items, different nations' scores on the index often comprise a different mix of indicators. Thus, it is possible that the difference across the two studies is simply a methodological artifact. If one were able to obtain a more complete set of indicators (we could not) for all of the laws across nations that were used across states, the results may look more similar across the two studies.

We suspect that the differences on legal restriction between the two studies emerged for more important theoretical reasons, however. It could be that legal restriction is a valid indicator of legislative restriction only when there is an overall legal and cultural similarity among the persons composing the varying cultural units. Consider, for example, that in the United States, many of the laws used are currently the focal point of much cultural and legal debate; thus, they are culturally relevant touch points for most of the states under consideration. However, because widely different cultures value specific legal issues differently, it may be that legal restriction across nations does not hit on the same shared cultural relevance and thus does not produce meaningful correlations. Similarly, it could be that in the United States, the things that influence the emergence of laws are very closely related across different states, whereas the emergence of laws across different nations could be influenced by such a wide variety of factors (from revolutions to referendums) that the legal restriction indicator loses its significance. This is speculative, however. What can be noted with certainty is that the national LRI manifested no association with culture across nations even though the state LRI was associated with culture across U.S. states and even though the political restriction index was associated with culture across nations.

### THE PREDICTIVE POWER OF CULTURAL COLLECTIVISM

Both within the United States and across nations, measures relevant to cultural collectivism were more predictive of measures relevant to political and legal structures than vice versa. This pattern was especially strong in both cases when controlling for the initial relationship between the two variables in the 1960-1970 era. Although this pattern was less pronounced, less consistent, and more open to sampling bias concerns for the United States than the world data, such similarity across conceptually related but operationally distinct mea-

tures is intriguing. Indeed, the results across nations, where cultural collectivism predicted future political restriction across nations but not vice versa, are particularly interesting. They suggest that changes in the collective psychology of populations can predispose them for acceptance of future political changes, even when (as is the case in some of the nations under scrutiny here) those changes seem to result from factors out of the control of the populace at large. This result is consistent with previous evidence more broadly linking culture to political change and gives life to recent political and social scientists' theorizing about how culture might facilitate or inhibit such change. As Clague et al. (2001) note,

attempts to introduce foreign institutions such as elections, legislatures, and judicially enforced rule of law may succeed in one society and fail in another because of deep-seated cultural attitudes and expectations about how political authority should and will be used. (p. 19)

The present data suggest that an explicitly cultural dimension does causally predict which cultures will become, and remain, politically free. In light of these and other data, it is worth considering whether the recent attempt to establish democracy in largely collectivistic Iraq has a realistic chance of success. If a culture's attitudes are vertically collectivistic, it may be hard to impose a form of government inconsistent with these attitudes from the outside.

Of course, for the U.S. state data, given the difficulties associated with the construction of the truncated variables, the lack of consistency across time frames, and the moderate effect sizes, it would be premature to draw firm conclusions about the predictive power of cultural or political structures. (The results are stronger and more consistent for the world data.) Thus, although these data provide strong evidence that a relationship between political and cultural structures exists (it is worth noting that Study 3 implicitly supports this notion: however interpreted, it does suggest further links between governmentally initiated restriction and collectivism across time), caution is warranted when drawing conclusions about how that relationship emerged in the present data.

#### **WHERE DOES CULTURE COME FROM?**

The present work also potentially helps aid our understanding of exactly how cultural differences emerge to begin with. In particular, one view of the origins of culture is that it primarily emerges as the result of external pressures placed on it, ranging from ecological or environmental pressures to the commands of prominent authority figures (e.g., Berry, 1994; Cohen, 1998; Conway, Ryder et al., 2001; Insko et al., 1980; Tweed & Conway, in press). However, the present work suggests not only that these kinds of top-down pressures do not exclusively shape culture but also that they sometimes play a surprisingly small role in cultural formation and change. A law or political change is something that is theoretically enforced on everyone in a population from the top down, and thus, one would expect its effects would be widespread on relevant cultural beliefs. But the present work suggests that despite strong relations with culture generally, the actual causal impact of political and legal restrictions relevant to collectivism on future cultural beliefs and practices is minimal. Although we should of course be leery to overweigh such evidence by absence, it is still consistent with other theory and research on how culture and shared beliefs often emerge through communication processes in ways independent of top-down pressures (e.g., Bourgeois, 2002; Colarelli, 1998; Conway, 2004; Harton & Bourgeois, 2003; Opp, 1982; Schaller & Conway, 1999; Schaller, Conway, & Tanchuk, 2002).

## CONCLUSION

Although not all aspects of this story are tidy, taking a step back to view the larger picture emerging from Investigations 1, 2, and 3 suggests an interesting and coherent panorama. Despite very different methodologies and samples, the studies show convergence between political and cultural structures related to collectivism. Taken as a whole, the present results provide evidence that considering, like Aristotle and Mill, the ways in which a state deals with the inherent tension between the collective good and individual freedom can bear some meaningful theoretical fruit for both cross-cultural and political psychologists. This tension is inevitably tied to both culture and politics and, as such, can serve as a good point to bridge the current gap between them. The present work is intended to offer a new support to this bridge, with the hope that future researchers will continue its construction.

## NOTES

1. In the present data set, the USCI correlated less ( $r = .25$ ) with urban percentage than in Vandello and Cohen's (1999) results ( $r = .38$ ), thus it is possible (though unlikely) that the present results underrepresent the mediational impact of urban percentage.

2. An initial study of a narrow range of road safety laws yielded a somewhat similar but weaker pattern of results. Toward addressing the potential for selection bias, 18 variables that had originally been in the item pools (from both the initial unreported road safety study, the original LRI reported here, and the 1990 longitudinal scores) were converted to  $z$  scores and averaged to create an overall index. This index represented almost every item that had ever been considered for use in the index in the 1990-2000 era. Analyses for this overall index suggested a pattern of results similar to that of the reported LRI: The correlation between the overall index and the USCI was  $.34$ ,  $p = .016$ . (Controlling for the demographic factors and violent crime rate reduced this correlation only minimally, partial  $r = .29$ ,  $p = .063$ .)

3. In the present study, these two indexes were correlated at  $r = .71$ . The reasons for the discrepancy are unclear.

4. The original intended use of this index for the present study was to examine whether type of government (either totalitarian/dictatorial or republican/democratic) moderated the legal restriction-cultural collectivism relationship. Only after the positive political restriction-cultural collectivism relationship emerged did its obvious direct relevance to the governmentally initiated restriction construct occur to the authors. Because of this, all tests using the political restriction index are post hoc and are thus presented with two-tailed tests. Although, of course, the post hoc nature of these tests is ground for caution when making interpretations, it should not undermine the obvious theoretical relevance of the political restriction measure.

5. If one includes the group housing variable in the USCI and the privacy laws variable in the LRI, the predictive validity of the two indexes are much more similar (1970 TUSCI-1990 TLRI partial  $r = .22$ ; 1970 TLRI-1990 TUSCI partial  $r = .17$ ). On the other hand, if one uses only the gun variable as the LRI indicator, the difference in predictive validity is stronger (1970 TUSCI-1990 TLRI partial  $r = .29$ ; 1970 TLRI-1990 TUSCI partial  $r = .10$ ).

6. Additional indexes were constructed for the 1980s. No marijuana laws could be obtained for the 1980s, so the LRI for that timeframe consisted of only gun laws. Longitudinal analyses using the 1980s data generally yielded weak results. When controlling for the initial relationship between gun restriction and the TUSCI, the 1970s variables were not predictive at all of the opposing 1980s variables (both partial  $r$ s =  $-.03$ ). These same analyses yielded a pattern of results for the 1980s-1990s transition that was in the opposite direction of that reported for the 1970s-1990s transition (1980 TUSCI-1990 gun restriction partial  $r = .11$ ; 1980 gun restriction-1990 TUSCI partial  $r = .27$ ). This latter finding interestingly suggests that the amount of time moderates the causal nature of the relationship between political and cultural structures: Political change may be an effective means of instituting short-term cultural change, but for longer periods of time, this effect of political structures wears off. However, despite the intuitive appeal of this idea, the 1980s data should be treated with caution because only one indicator of legal restriction was used for these analyses. (Indeed, including all possible indicators of legal restriction and cultural collectivism for the 1980s yields a very different pattern of partial correlations: 1970 TUSCI-1980 TLRI  $r = -.06$ , 1970 TLRI-1980 TUSCI  $r = .11$ , 1980 TUSCI-1990 TLRI  $r = .21$ , and 1980 TLRI-1990 TUSCI  $r = .02$ .)

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