

Economic Inequality and Intolerance: Attitudes toward Homosexuality in 35 Democracies

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Using hierarchical linear models fitted to data from the World Values Survey and national statistics for 35 countries, this article builds on the postmaterialist thesis by assessing the impact of economic inequality across and within nations on attitudes toward homosexuality. It provides evidence that tolerance tends to decline as national income inequality rises. For professionals and managers, the results also support the postmaterialist argument that economic development leads to more tolerant attitudes. On the other hand, attitudes of the working class are generally less tolerant, and contrary to expectations of the postmaterialist thesis, are seemingly unaffected by economic development. In other words, economic development influences attitudes only for those who benefit most. These findings have political implications, suggesting that state policies that have the goal of economic growth but fail to consider economic inequality may contribute to intolerant social and political values, an attribute widely considered detrimental for the health of democracy.

Inglehart's (1987, 1990, 1997) postmaterialist thesis suggests that liberal values result from democracy, economic development, and modernization. Important to this argument is the idea that the prosperity of modern societies allows people to shift their attention from material concerns to so-called "postmaterialist" concerns, such as social issues and self-expression. This shift to postmaterialist values allegedly results in greater social tolerance. Moreover, by focusing on average value differences across country and time, the postmaterialist thesis implies that economic prosperity affects the attitudes of citizens in all economic positions within a given nation in much the same way. Although inequality within nations is not entirely discounted, the theory assumes that once economic development reaches a particularly high level, inequality lessens to the point that it no longer influences values (Inglehart 1987).

The present research takes issue with the assumption that national economic prosperity affects all members within a nation in a similar manner. Given the vast differences in economic conditions and life chances according to income group, social class, and occupation, even within rich democracies, it is not controversial to argue

that all members of society do not benefit equally from economic development. Following the logic of the postmaterialist thesis, one should expect that if those with low economic standing are not completely free of material concerns they will exhibit less tolerance than those with high economic standing. In fact, effects of this nature have been consistently found as far back as Lipset's (1959) research on working-class authoritarianism. More recent research confirms that those from working-class backgrounds tend to be less satisfied with life (Hout 2003) and concomitantly less tolerant of "outgroups" than those from middle-class backgrounds (Svallfors 2006). Cross-national research on social trust further suggests that differences in income inequality within nations does a better job than economic development of explaining national differences in tolerance. Uslaner (2002; see also Uslaner and Brown 2005), for example, argues that economic inequality can disrupt the development of a generalized social trust, and thus hinder tolerance.

Despite that individual-level and national-level inequality may both have important implications for attitudes, research on postmaterialist values has seldom incorporated both factors. Even more important, no

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previous research has considered how individual-level economic position and economic development interact in their effects on tolerance. Given its recent rise in prominence internationally, there is perhaps no better social issue upon which to examine the postmaterialist thesis and these further considerations than attitudes toward homosexuality. Consistent with the postmaterialist thesis, attitudes toward homosexuality have liberalized significantly in the past couple of decades, though national differences continue to persist (Andersen and Fetner 2008; Brewer 2003; Loftus 2001). Analyzing attitudes on this issue in 35 democracies, the present research will show that, although inequality across nations is certainly important, inequality within nations must also be considered when attempting to understand national differences in tolerance. In this regard, this article contributes two important findings. Firstly, national-level economic prosperity does not operate the same for all. Those who benefit least from economic development tend to be less tolerant regardless of the wealth of the society in which they live. Secondly, consistent with research on social trust, inequality negatively affects tolerance regardless of social class. Aside from its contributions to the postmaterialist thesis, this research also provides the most comprehensive cross-national study of attitudes toward homosexuality to date.

Before outlining the hypotheses to be tested, the research from which they were derived is discussed in detail. The discussion starts with Inglehart's postmaterialist thesis, paying particular attention to his focus on attitudes toward homosexuality. It then turns to Uslaner's discussion of the relationship between economic inequality, generalized social trust, and tolerance toward outgroups. Finally, a brief overview of the literature regarding individual-level predictors of social tolerance in general, and tolerance toward homosexuality in particular, is also provided.

Postmaterialism and Tolerance

An abundance of cross-national research on attitude difference has been spurred by Inglehart's (1987, 1990, 1997) postmaterialist thesis, which argues that economic security resulting from sustained economic growth has decreased the importance of economic issues in modern societies, thus freeing citizens to give greater consideration to social issues. The postmaterialist thesis is explicit that citizens from modern industrialized nations tend to have more "postmaterialist" attitudes than citizens from developing nations. Among other things, postmaterial-

ist attitudes include pluralistic tolerance, a preference for gender equality, and tolerance of homosexuality. Through a comparative analysis of 40 nations, Wernet, Elman, and Pendleton (2005) provide support for this thesis with regard to gender ideology (in which a measure for attitudes toward homosexuality is embedded), concluding that economic development encourages a "pro-woman state" concerned with protecting women's rights.

Inglehart and Baker (2000) further state that factors such as cultural heritage, religion, and Communist rule encourage the maintenance of traditional values in some modern economic settings. In this regard, they conclude that economic development is associated with changes in values in a probabilistic, rather than deterministic way (Inglehart and Baker 2000, 50). They argue that a history of Communist rule is related to economic development, which in turn affects attitudes. More specifically, people who experienced Communist rule and the economic collapse after the dissolution of the Soviet Union tend to hold traditional "survival" values, which contribute to intolerance. Nonetheless, Inglehart and Baker also suggest that as the economy has expanded in these countries, people have moved more toward postmaterialist values and greater tolerance. Even if the gap has narrowed, other recent research confirms that Eastern European countries remain markedly different from their Western neighbors in terms of not only attitudes toward homosexuality, but also to sexual permissiveness in general (Štulhofer and Sandfort 2005).

Despite the large body of research supporting the main argument of the postmaterialist thesis, variation in social attitudes among rich nations—or for that matter, among poor nations—regardless of whether or not they experienced Communist rule in the past has not been adequately explained. Not sufficiently addressed is the link between the distribution of resources *within* nations and postmaterialist values. Since the benefits of economic prosperity are not equally distributed throughout a nation's population, not all experience the freedom from material concerns that is so important to the postmaterialist thesis. Moreover, there is much variation in the level of income inequality across countries, regardless of level of economic development and democratic tradition. Some highly developed nations, such as the United Kingdom and the United States, have relatively high levels of income inequality compared to other highly developed nations such as the Scandinavian countries and the Netherlands. Given that attitudes about matters such as gender equality, the environment, and homosexuality are related to individual economic position within countries (Evans 1993; Persell, Green, and Gurevich 2001; Svallfors 2006), differences in the level of inequality within

countries may also affect social attitudes in a differential manner.

Social Trust and Tolerance

The postmaterialist thesis can be further augmented by considering cross-national research on social trust, which suggests that inequality may affect *all* members of society regardless of their own economic position. The causal argument is quite simple: a high level of inequality leads to a low level of social trust across all members of society, which in turn leads to low tolerance. Uslaner's (2002) distinction between particularized social trust and a more general trust is particularly important for understanding this argument. Particularized trust refers to a trust of others whom one has met, or who are socially similar to the respondent. Those who demonstrate particular trust tend to be suspicious of outsiders and people who are perceived as different. Generalized trust pertains to the trust of others in general, or simply put, an attitude of faith in humankind. According to Uslaner, it is generalized trust that produces more tolerant attitudes toward others, including outgroups.

Through cross-national analysis, Uslaner (2002) has two findings of particular relevance to the present study: (1) higher levels of economic inequality are linked with low levels of generalized trust, and (2) economic inequality within countries has far greater explanatory power than individual-level measures of income and well-being for predicting general trust. Other research on social trust has produced similar findings. For example, Knack and Keefer's (1997) examination of 29 countries found that social trust was strongest in nations with both high average incomes *and* more equal incomes.

Individual-level Predictors of Tolerance of Homosexuality

Any examination of national differences must account for compositional differences that may confound the impact of the context variables of interest. Thus, the discussion now turns to the social background characteristics at the individual level that explain variation in social tolerance. While no single process or dimension can explain all social tolerance (Chong 1993; Gibson 1986), intolerance seems to be largely related to a perception that an outgroup poses a social or economic threat—whether real or imaginary—to an individual's or nation's interests (see, for example,

Sniderman, Hagendoorn, and Prior 2004). It has also been shown that those who are psychologically insecure are most likely to feel threatened, and thus are less tolerant, than those who are psychologically secure (Sniderman 1975; Sniderman, Hagendoorn, and Prior 2004; Sullivan, Pierson, and Marcus 1982).

Given that higher education tends to expose people to different types of lifestyles and ideas, it is not surprising that a longstanding finding shows a positive relationship between education and social tolerance (Davis 1975; McCutcheon 1985; Stouffer 1955). Still, some argue that it is not clear whether education liberalizes or simply leads to people having a better knowledge of social norms and values (Jackman 1972), resulting in "appropriate" liberal answers to survey questions. Regardless of the mechanisms for the education effect, education is one of the most important predictors of tolerance generally, and of tolerance of homosexuality specifically (Lottes and Kuriloff 1994).

Also consistent with the idea of perceived threat and feelings of insecurity, research has shown a link between individual economic position and level of social tolerance. In this regard, Lipset's (1959) early research on working-class authoritarianism showed that members of the working class held more authoritarian, and thus less tolerant, views than those with middle-class occupations. More recent research has continued to demonstrate a relationship between economic factors and general social tolerance. For example, Persell, Green, and Gurevich (2001) found that those in "economic distress" were less likely than those who were financially secure to be tolerant of homosexuality. Svallfors's (2006) comparative analysis of the United States, Great Britain, Sweden, and Germany found that social class affects many social attitudes in all four countries, including attitudes toward homosexuality, even after controlling for education.

Socioeconomic position is not the only individual attribute relevant to attitudes toward homosexuality. For example, gender is also a key predictor, with men showing less tolerant attitudes than women (Britton 1990; Yang 1997). Family status is also important, with married people who have children living at home tending to be less tolerant than others (Dejowski 1992; Smith 1992). The size of the locale in which people live has also been shown to be positively related to tolerance (Herek and Capitanio 1996; Stephan and McMullin 1982). Related to this, other research shows that people who have a homosexual person among their personal networks are more likely to be tolerant than those without lesbian or gay acquaintances (Cullen, Wright, and Alessandri 2002; Herek and Glunt 1996). Attitudes toward homosexuality have also been linked to religious affiliation (Brewer 2003; Fischer and Hout 2006; Olson, Cadge, and Harrison 2006) and

religious orthodoxy or fundamentalism (Herek 1987; Kirkpatrick 1993; McFarland 1989). Finally, research suggests that older people tend to be less tolerant than younger people (Inglehart 1990), though this pattern may be due to cohort and period effects as well as age itself (Andersen and Fetner 2008).

Unfortunately, almost all research on tolerance of homosexuality considers a single nation. This exclusive focus on variation within a single nation deflects attention from the larger social and political forces that underlie attitudes. Moreover, most research on attitudes toward homosexuality relies on data only from the United States, which is atypical because of its legislation to prohibit same-sex marriage and otherwise deny rights to lesbians and gay men (Adam 2003). Regional differences notwithstanding, the United States is moving in the direction of restricting lesbian and gay rights at a time when many other countries have been moving toward recognizing same-sex partnerships and granting marriage rights to gay men and lesbians. It may follow that Americans' attitudes toward homosexuality are similarly exceptional. The present study is important, then, not only because of its theoretical implications for the postmaterialist thesis, but also because it provides new insight into cross-national difference in attitudes toward homosexuality.

Hypotheses

Following from the discussion above, five sets of hypotheses are derived and tested:

- H1:* People are more likely to be tolerant of homosexuality if they live in a country that has relatively high economic development. It is expected that this pattern will hold even after controlling for important individual-level social background predictors. This hypothesis is derived directly from the postmaterialist thesis.
- H2:* National income inequality—measured by the Gini coefficient—is negatively related to tolerance. In other words, it is expected that people living in less equal societies tend to be less tolerant on average than those living in relatively equal societies. This hypothesis is adapted from the literature on the relationship between inequality and social trust.
- H3:* The apparent effect of economic development on tolerance is reduced substantially when other national context variables—in particular, income inequality, democratic tradition, and religious composition—are added to the statistical models.

H4: Those in lower social class positions are less tolerant on average than those in the middle classes. Specifically, the working class will have lower tolerance than the middle classes (i.e., those in managerial and professional occupations). The mechanism for this difference is straightforward: the middle class is more secure economically than the working class, and this greater security leads to greater tolerance.

H5: Economic development and individual-level class position interact in their effects on tolerance. More specifically, the differences between the working class and the middle classes become more pronounced as the level of economic development increases. The mechanism for this effect is also straightforward: following from Hypothesis 4, the working class gains less from economic growth and hence its level of tolerance does not increase as sharply as GDP per capita increases, as does the level of tolerance of the middle classes.

Data and Methods

Individual-level survey data collected during the period from 1990 to 2002 from 35 countries combined with country-level data obtained from various official sources are used for the analysis. The individual-level data are from the World Values Survey (Inglehart et al. 2001). The analysis is restricted to all available data from European countries, Australia, Canada, and the United States. Although some of these countries were also surveyed in the early 1980s, these data are not employed because all relevant information (on the dependent variable, important control variables, and/or the context variables) was not consistently available. All of the World Values Surveys (WVS) were collected from samples of adults (18 years and older) representative of the national populations. After removing missing cases, the analytical sample contains 59,993 individual respondents.

Dependent Variable

The dependent variable is a single questionnaire item used to tap attitudes toward homosexuality. Respondents were asked to give their opinions about a set of various political and social issues, including homosexuality. Each attitude was measured on a 10-point scale that ranged from “never justifiable” (coded 1) to “always justifiable” (coded 10). The exact wording of the question was as follows:

Please tell me for each of the following statements whether you think it can always be justifiable, never be justifiable, or something in between, using this card.

Homosexuality									
Never Justifiable					Always Justifiable				
1	2	3	4	5	6	7	8	9	10

Admittedly there is limitation to this dependent variable in that it taps whether respondents felt homosexuality is “right,” but it does not tell us whether or not they practiced intolerant behaviors or found them acceptable. It is possible, then, that a respondent could disapprove of homosexuality on moral grounds—and hence respond that it is “never justifiable”—but at the same time also disapprove of legal sanctions or other restrictions that discriminate against homosexuals. Given evidence that the item is highly correlated with more general attitudes toward human rights and related gender issues (see, for example, Wernet, Elman, and Pendleton 2005), however, this limitation is relatively minor.¹

Individual-level Predictors

The individual-level predictor of most concern is *social class*. Given the goal of assessing the effects of economic inequality, a reliable measure of income would be more directly related, but there is no suitable measure in the WVS. Although there is a measure of income, it contains a large amount of missing data and is not measured identically across countries. Occupation, on the other hand, which is typically the basis of measures of social class, was more consistently measured and had far fewer missing cases. Following Hout, Manza, and Brooks (1999), social class is measured by dividing occupations into four groups: (1) managers, (2) professionals, (3) routine nonmanual labor (e.g., salesclerks, secretarial staff, and other similar nonmanual occupations without managerial duties), and (4) the manual working class (e.g., skilled and unskilled blue-collar workers).² Previous research suggests

¹The dependent variable is also limited in that it is a single questionnaire item. Compared to a well-formulated composite measure created from many items, a single-item dependent variable can be more prone to measurement error. Nevertheless, the WVS does not contain any other appropriate measures, and no other dataset includes appropriate information on individuals from nearly as many countries. There is also no reason to believe that the item induced bias or that any possible bias would differ cross-nationally.

²We exclude all respondents for whom data on social class are missing, students, and people not working outside of the home (including those who are unemployed and homemakers).

that this measure works well for predicting attitudes in comparative perspective (see Andersen and Heath 2003).

As discussed in the literature review, many individual-level variables are related to tolerance, and hence it is important that they be controlled for when trying to assess differences related to national-level characteristics. The present analysis controls for gender, age, religion, marital status, number of children, size of town in which the respondent resides, and education. Age, which is measured in years, enters the statistical models as an orthogonal quadratic polynomial to capture a nonlinear relationship with attitudes. Education is measured as age at the completion of formal education.³ Religion is divided into six categories: (1) Practicing Catholic, (2) Nonpracticing Catholic, (3) Practicing Protestant, (4) Nonpracticing Protestant, (5) Other religion, and (6) No religion. Respondents were considered “practicing” if they attended religious services at least once a month.⁴ Marital status is divided into three categories: (1) married or cohabiting, (2) previously married but now either divorced or widowed, and (3) never married. Finally, the size of the municipality in which the respondent resided is divided into four categories: (1) less than 5,000 versus, (2) 5,000 to 49,999, (3) 50,000 to 499,999, and (4) 500,000 or greater.

National-level Independent Variables

The national context variables of most interest to the present study are economic development (measured by GDP per capita) and income inequality (measured by the Gini coefficient). Given that previous research indicates their importance, measures of religious composition and post-Soviet-Communist rule are also included as controls in the statistical models. All models also include a set of dummy regressors representing the year in which the survey was administered to control for changes in attitudes over time. More details on the context measures are given below.

Following common practice, *per capita GDP* is used to measure level of economic development. The values for all countries were adjusted to represent 2005 U.S. dollars. Information on the GDP per capita was gathered from the United Nations (2005). In order to make the coefficients

³Due to limitations of the data, we are unable to use more standard measures of educational attainment such as years or type of education.

⁴It is possible that other measures of religiosity—e.g., the amount of time respondents spend praying—would provide a better control for religion than the measure we employ. Unfortunately no other appropriate measures were available in the WVS. Nevertheless, this measure of religion is more extensive than those typically employed in research on postmaterialism.

from the models more easily interpretable, per capita GDP is divided by 1,000.

Also following common practice, the *Gini coefficient for household income* is used to measure income inequality. The Gini has a theoretical range from 0 (perfect equality) to 1 (perfect inequality, where one household has all of the income). The Gini coefficient was available from the Luxembourg Income Study (2005), which is typically considered to provide the most reliable information, for 25 of the 35 countries explored in the analysis. This information was employed for all of these countries. For the 10 countries not covered by the Luxembourg Income Study, the data used were compiled by other agencies in the following order: World Bank⁵ (Deiningner and Squire 2005), World Development Indices (World Bank 2005), the European Commission (2006), and UNICEF (Trans-MONEE 2004).⁶

Aside from the possibility that *post-Soviet Communist rule* could affect attitudes on its own right, it is also important to include it as a control when exploring for the effects of economic development and income inequality on attitudes. Previous research indicates that post-Soviet-Communist rule is related to both of these variables, with former Communist societies typically—but certainly not always—having lower levels of income inequality and GDP per capita than countries that have never experienced Communist rule (see, e.g., Nielsen and Alderson 1995; Freeman and Oostendorp 2000).⁷

⁵The WIDER data, which were assembled by the World Bank (Deiningner and Squire 2005), are an alternative source of income inequality data that are available for a larger set of countries than the Luxembourg Income Study (LIS). Three attributes of the LIS data make them more desirable, however: (1) similar data collection procedures were employed in all countries, (2) the procedures are well documented, and (3) the institutions carrying out the data collection are all highly reputable (see <http://www.lisproject.org/introduction/membercountries.htm> for more details). On the other hand, data collection procedures for the WIDER data differed according to country and, just as importantly, these differences are not well documented.

⁶The surveys from which the Gini was calculated were collected at irregular intervals, and thus we could not directly match all surveys from the WVS to a Gini coefficient measured in the same year. In all cases we use the available Gini coefficient that corresponds to the most recent survey. If the Gini is not known for a particular year but it is known for the years immediately prior and following, the average of these two years was used.

⁷For the German data, only respondents from the former West Germany are included in the 1990 data, but the 2000 data include respondents from both the former West Germany and the former East Germany. Since we could not distinguish respondents from the two regions, we classify all of them as having never experienced Communist rule. In order to ensure this coding did not unduly influence the results, we also fit the statistical models excluding the German data. The results were nearly identical, and thus the choice of coding had no substantive impact on the conclusions.

As mentioned earlier, research also indicates that post-Soviet-Communist rule has a negative impact on tolerance (Inglehart and Baker 2000).

Given that attitudes toward homosexuality are typically tied to religion, the analysis also controls for the *dominant religion* of the country. Following the lead of other cross-national research (Barrett 1982; Curtis, Baer, and Grabb 2001), nations are classified into four broad groups: (1) Catholic, (2) Protestant, (3) Mixed Christian, and (4) Other. To classify as a dominant religion, at least 70% of the population must report being a member.

Country-specific details (such as the year the data were collected, corresponding sample sizes, information on the context variables, and mean placement on the dependent variable) are shown in Table 1. Countries are listed in descending order from most tolerant to least tolerant as determined by the proportion of respondents stating that homosexuality is “never justifiable” (coded “1” on the 10-point scale).

Statistical Models

The main analysis employs a series of hierarchical linear models to predict attitudes toward homosexuality. All models take into account the clustering of respondents within country and year. This is accomplished by treating each survey as a separate context and specifying a variance component that allows the intercept to vary according to survey. Although the models include data from only 35 countries, they pertain to 63 different contexts because many countries were surveyed in more than one year (see Table 1).⁸

The main analysis reports the findings from five models which build incrementally. All models included the individual-level control variables and a random intercept to account for overall mean differences in attitudes across contexts. Model 1 includes GDP per capita as the only contextual variable.⁹ This model provides a

⁸In preliminary analyses, we also tried fitting three-level models that specified years as nested within countries and individuals nested within years and country. Several of the models of interest to these hypotheses failed to converge on stable estimates, however, and thus the findings presented here rely on the two-level models that specify the separate surveys as the individual contexts. Still, it should be noted that the findings for the three-level models that did converge were substantively similar to the results of the two-level models reported here.

⁹Following common practice for multilevel models, GDP per capita/1,000 and the Gini coefficient were both centered—i.e., each value was subtracted from the mean of the variable—before being entered in the statistical models in order to improve the stability of the estimates.

TABLE 1 Descriptive Information for Each Country by Survey Year. Countries Are Ranked in Descending Order According to Fewest “Never Justifiable” Responses.

Country	Survey Year	N	GDP per Capita	Gini*	Former Communist	Dominant Religion	Mean Attitude toward Homosexuality**
Netherlands	1990	797	20,558	.314	No	Mixed Christian	7.47 (3.2)
	1999	611	26,282	.307			8.28 (2.5)
Sweden	1990	866	28,296	.250	No	Protestant	4.54 (3.5)
	1999	407	28,621	.272			7.47 (3.0)
Switzerland	1996	804	43,000	.359	No	Mixed Christian	5.97 (3.3)
Czech Republic	1990	606	3,594	.206	Yes	Mixed Christian	5.42 (3.4)
	1991	1,993	2,634	.206			3.73 (3.1)
	1999	1,373	5,744	.257			5.29 (3.5)
Denmark	1990	879	26,428	.250	No	Protestant	4.76 (3.4)
	1999	768	32,708	.250			6.63 (3.6)
Finland	2000	612	23,290	.270	No	Protestant	4.87 (3.3)
Spain	1990	1,484	13,394	.317	No	Catholic	3.79 (3.0)
	1990	379	13,394	.317			4.46 (3.4)
	1995	709	14,949	.371			5.62 (3.3)
	1999	584	15,283	.345			5.61 (3.3)
	2000	828	14,261	.345			6.25 (3.0)
Australia	1995	1,668	21,409	.332	No	Mixed Christian	4.65 (3.2)
Canada	1990	1,368	20,729	.309	No	Mixed Christian	4.14 (3.0)
	2000	1,585	23,280	.324			5.61 (3.4)
Norway	1990	972	27,374	.251	No	Protestant	4.29 (3.5)
	1996	929	36,293	.257			5.80 (3.6)
Austria	1990	1,006	21,346	.313	No	Catholic	3.42 (2.9)
	1999	1,166	26,341	.292			5.31 (3.4)
Germany	1990	2,842	21,494	.289	No	Mixed Christian	4.25 (3.3)
	1999	1,354	26,056	.292			5.13 (3.2)
Belgium	1990	1,859	20,335	.251	No	Catholic	3.27 (2.9)
	1999	1,382	24,705	.322			5.32 (3.4)
Italy	1990	1,144	19,984	.319	No	Catholic	3.93 (3.1)
	1999	1,100	20,834	.364			4.86 (3.3)
United States	1990	1,451	22,530	.374	No	Mixed Christian	3.17 (2.8)
	1995	968	27,234	.390			3.78 (3.1)
	1999	988	32,767	.394			4.72 (3.2)
Ireland	1990	801	13,616	.368	No	Catholic	3.28 (2.7)
	1999	448	25,748	.341			4.40 (3.1)
France	1990	611	21,290	.327	No	Catholic	3.75 (2.9)
	1999	1,101	23,967	.323			5.09 (3.1)
Slovakia	1990	262	3,103	.200	Yes	Catholic	3.37 (3.0)
	1991	961	2,163	.200			3.09 (2.8)
	1999	950	3,781	.260			4.82 (3.2)
Great Britain	1990	1,309	17,434	.360	No	Protestant	3.42 (2.7)
	1999	592	25,057	.370			5.08 (3.1)
Slovenia	1992	752	6,443	.239	Yes	Mixed Christian	2.97 (3.0)
	1999	756	10,836	.239			4.41 (3.6)
Portugal	1990	816	7,540	.374 ^c	No	Catholic	2.22 (2.2)
	1999	625	11,955	.364 ^c			3.41 (2.6)

continued

TABLE 1 Continued

Country	Survey Year	N	GDP		Former Communist	Dominant Religion	Mean Attitude toward Homosexuality**
			per Capita	Gini*			
Croatia	1999	631	4,393	.379 ^a	Yes	Catholic	2.52 (2.7)
Poland	1990	602	1,655	.293	Yes	Catholic	1.79 (1.8)
	1999	797	4,255	.319			2.88 (2.9)
Estonia	1999	704	4,043	.364	Yes	Other	2.80 (2.7)
Bulgaria	1990	794	2,377	.280 ^a	Yes	Other	1.72 (1.9)
	1999	626	1,609	.303 ^a			2.53 (2.3)
Belarus	2000	752	1,039	.288 ^a	Yes	Other	2.82 (2.9)
Latvia	1999	668	3,019	.318 ^a	Yes	Other	1.84 (1.9)
Moldova	2002	686	392	.405 ^a	Yes	Other	2.21 (2.2)
Bosnia and Herzegovina	2001	837	1,229	.260 ^b	Yes	Other	1.96 (1.9)
Ukraine	1999	712	636	.427 ^d	Yes	Other	2.20 (2.3)
Lithuania	1999	639	3,078	.330 ^a	Yes	Catholic	1.74 (1.7)
Macedonia	2001	657	1,705	.286 ^d	Yes	Other	1.94 (2.1)
Russia	1990	541	3,840	.436	Yes	Other	1.26 (1.1)
	1999	1,701	1,332	.425			2.03 (2.0)
Hungary	1991	884	3,286	.295	Yes	Catholic	2.72 (3.2)
	1999	845	4,723	.301			1.41 (1.5)
Romania	1993	816	1,148	.310	Yes	Other	1.52 (1.6)
	1999	575	1,602	.303			2.08 (2.3)

Notes:

*Unless otherwise noted, Gini coefficient is from the Luxembourg Income Study. The following symbols denote that the Gini was from ^aWorld Bank, ^bWorld Development Indices, ^cEuropean Commission or ^dUNICEF.

**Standard deviation in parentheses.

standard test of the postmaterialist proposition that economic development affects attitudes (Hypothesis 1). Model 2 adds the Gini coefficient to the model to test whether income inequality negatively affects tolerance (Hypothesis 2). Model 3 further includes the two country-level control variables: dominant religion and former Soviet-Communist rule. The goal here is to explore the impact of including these context variables on the size of the effect of GDP per capita (Hypothesis 3). Model 4 builds on Model 3 by specifying variance components for the social class coefficients, which allows us to test whether the class effect differs according to context (Hypothesis 4). Finally, Model 5 adds terms to capture the cross-level interaction between social class and GDP per capita in their effects on attitudes (Hypothesis 5).

Results

Table 1 provides a preliminary look at the relationship between attitudes toward homosexuality and the national context variables. The table offers tentative support for

standard arguments about the relationship between national context and tolerance. More specifically, the most tolerant countries tend to be those with high levels of economic development that have not experienced Soviet-Communist rule. Economic development and democratic tradition do not tell the whole story, however. Notable exceptions such as the Czech Republic, which has a high level of tolerance despite low per capita GDP and a Communist past, and the United States, which has relatively low tolerance despite immense wealth and not having experienced Communist rule, suggest that inequality may also play a role. Although not reported here, preliminary models fitted for each country separately further showed a quite common pattern of the working class tending to be less tolerant than other social classes, though this relationship differed quite dramatically by country.¹⁰

Table 2 displays the coefficients for the hierarchical linear models. The first column displays information for Model 1, which provides an initial test of the post-materialist thesis that economic development influences

¹⁰The results from the individual country analyses are available in figure form on request from the authors.

TABLE 2 Estimates for Hierarchical Linear Models Predicting Tolerance toward Homosexuality in 35 Democracies (Standard Errors in Parentheses)

	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	3.07*** (0.24)	3.01*** (0.22)	3.95*** (0.34)	3.81*** (0.31)	3.82*** (0.31)
Year of survey					
1990	0	0	0	0	0
1991	0.90 (0.66)	0.21 (0.62)	0.04 (0.57)	0.22 (0.51)	0.16 (0.51)
1992	0.22 (1.06)	-0.40 (0.97)	-0.71 (0.89)	-0.84 (0.81)	-0.83 (0.81)
1993	-0.67 (1.07)	-0.67 (0.97)	0.08 (0.88)	0.28 (0.79)	0.24 (0.80)
1995	0.35 (0.64)	0.91 (0.59)	0.69 (0.53)	0.44 (0.44)	0.45 (0.44)
1996	-0.15 (0.83)	-0.018 (0.75)	1.24 (0.76)	1.13 (0.66)	1.13 (0.66)
1999	0.57 (0.31)	0.76** (0.28)	1.08*** (0.27)	1.08*** (0.24)	1.08*** (0.24)
2000	1.06 (0.56)	1.09* (0.51)	1.17** (0.45)	1.41*** (0.40)	1.40*** (0.40)
2001	-0.16 (0.79)	-0.50 (0.71)	-1.15 (0.95)	-1.01 (0.85)	-1.03 (0.85)
2002	0.20 (1.08)	1.05 (0.99)	0.44 (1.03)	0.86 (0.92)	0.84 (0.92)
Individual-level variables					
Gender (men = 1)	-0.61*** (0.24)	-0.61*** (0.024)	-0.61*** (0.024)	-0.63*** (0.025)	-0.63*** (0.024)
Age	-125*** (3.35)	-125*** (3.35)	-125*** (3.35)	-126*** (3.35)	-124*** (3.34)
Age ² (orthogonal)	-24.4*** (3.07)	-24.4*** (3.07)	-24.4*** (3.07)	-23.1*** (3.06)	-23.1*** (3.06)
Education (in years)	0.054*** (0.0028)	0.054*** (0.0028)	0.054*** (0.0028)	0.054*** (0.0028)	0.055*** (0.003)
Marital status					
Never married	0.20*** (0.039)	0.20*** (0.039)	0.20*** (0.039)	0.20*** (0.039)	0.20*** (0.039)
Divorced or widowed	0.25*** (0.031)	0.25*** (0.031)	0.25*** (0.031)	0.25*** (0.031)	0.25*** (0.031)
Married or cohabitating	0	0	0	0	0
Number of Children	-0.083*** (0.010)	-0.083*** (0.010)	-0.083*** (0.010)	-0.080*** (0.010)	-0.081*** (0.010)
Religion					
Practicing Catholic	-1.05*** (0.039)	1.05*** (0.039)	-1.05*** (0.039)	-1.05*** (0.039)	-1.05*** (0.038)
Nonpracticing Catholic	-0.34*** (0.036)	-0.34*** (0.036)	-0.34*** (0.036)	-0.34*** (0.036)	-0.35*** (0.036)
Practicing Protestant	-1.35*** (0.047)	-1.35*** (0.047)	-1.35*** (0.047)	-1.38*** (0.047)	-1.38*** (0.047)
Nonpracticing Protestant	-0.41*** (0.39)	-0.42*** (0.039)	-0.41*** (0.039)	-0.41*** (0.039)	-0.41*** (0.039)

continued

TABLE 2 Continued

	Model 1	Model 2	Model 3	Model 4	Model 5
Other religion	-0.86*** (0.095)	-0.86*** (0.095)	-0.86*** (0.095)	-0.90*** (0.095)	-0.91*** (0.095)
No religion	0	0	0	0	0
<i>Town size</i>					
Less than 5,000	0	0	0	0	0
5,000 to 49,999	0.13 (0.031)***	0.13 (0.031)***	0.13 (0.031)***	0.15 (0.031)***	0.15 (0.031)***
50,000 to 499,999	0.38 (0.033)***	0.38 (0.033)***	0.38 (0.033)***	0.40 (0.033)***	0.40 (0.033)***
500,000 or greater	0.52 (0.040)***	0.53 (0.040)***	0.53 (0.040)***	0.55 (0.040)***	0.55 (0.040)***
<i>Social Class</i>					
Managers	0.33 (0.044)***	0.33 (0.044)***	0.33 (0.044)***	0.31 (0.064)***	0.34 (0.063)***
Professionals	0.76 (0.040)***	0.76 (0.040)***	0.76 (0.040)***	0.74 (0.096)***	0.77 (0.078)***
Routine nonmanual	0.46 (0.029)***	0.46 (0.029)***	0.46 (0.029)***	0.41 (0.069)***	0.43 (0.048)***
Working class	0	0	0	0	0
Country-level variables					
GDP per capita (\$1000s)	0.102 (0.014)***	0.098 (0.013)***	0.020 (0.027)	-0.004 (0.024)	0.014 (0.025)
Gini coefficient	-	-9.04 (2.41)***	-9.94 (2.67)***	-7.37 (2.35)**	-7.59 (2.36)**
<i>Religious Composition</i>					
Protestant	-	-	-0.64 (0.37)	-0.86 (0.32)**	-0.85 (0.33)**
Catholic	-	-	-0.65 (0.31)*	-0.49 (0.28)	-0.49 (0.28)
Mixed Christian	-	-	0	0	0
Other	-	-	-1.41 (0.50)**	-1.20 (0.45)**	-1.19 (0.45)**
Former Soviet-Communist	-	-	-1.39 (0.61)*	-1.40 (0.55)**	-1.40 (0.55)**
Class*GDP interaction					
Managers	-	-	-	-	0.014 (0.0056)**
Professionals	-	-	-	-	0.040 (0.0069)***
Routine nonmanual	-	-	-	-	0.035 (0.0042)***
Random Effects					
Intercept	1.05***	0.85***	0.65***	0.67***	0.62***
<i>Social Class</i>					
Managers	-	-	-	0.13***	0.11***
Professionals	-	-	-	0.46***	0.26***
Routine nonmanual	-	-	-	0.24***	0.08***
AIC	292,930	292,920	292,911	292,567	292,521
BIC	293,200	293,199	293,226	292,963	292,866

*P-value < 0.05; **P-value < 0.01; ***P-value < 0.001.

attitudes. As well as the individual-level predictors, this model includes GDP per capita, but does not include any other context variables. As one would expect, the variance of the intercept is statistically significant, indicating that there is variation in attitudes across national context that is not accounted for by the variables in the model. Also, the individual-level predictors affect attitudes in the expected directions. Consistent with previous research, most likely to be tolerant of homosexuality are women, the young, those who are not religious, the highly educated, the unmarried without children, and those from larger communities.

The most important findings from Model 1 are the statistically significant effects of social class at the individual level and GDP per capita at the national level. Theories about modernization and economic growth, especially as put forward by Inglehart (1997), suggest that economic development has a positive effect on liberal attitudes generally, and thus on attitudes regarding homosexuality. The findings from Model 1 are consistent with this argument and thus support Hypothesis 1. With respect to social class, the model indicates that all other classes tend to be more liberal than the working class, but professionals tend to be the most liberal. Like standard tests of the post-materialist thesis, however, this model is limited because it fails to consider both whether the per-capita GDP effect reflects the omission of other important lurking contextual variables, and whether the effects of per capita GDP differ according to social class. Although the results from Model 1 should be seen as tentative, they will be used as a benchmark to which competing models that consider other factors usually ignored by research on postmaterialist values will be compared.

Model 2 improves on Model 1 by including the Gini coefficient as a country-level context variable. As expected from Hypothesis 2, national income inequality is negatively related to tolerance of homosexuality. In fact, the effect of the Gini coefficient is quite large. All else being equal, a country with very low inequality (i.e., Gini = .2) has an average attitude that is almost two points higher on the 10-point attitude scale than a country with very high inequality (i.e., Gini = .4). Just as important, the coefficient for GDP per capita changed very little from Model 1 (0.098 versus 0.102), suggesting that the Gini effect reflects quite different mechanisms. Moreover, the intercept variance and the BIC values decreased from Model 1, indicating that the addition of national-level income inequality significantly improves the fit of the model.

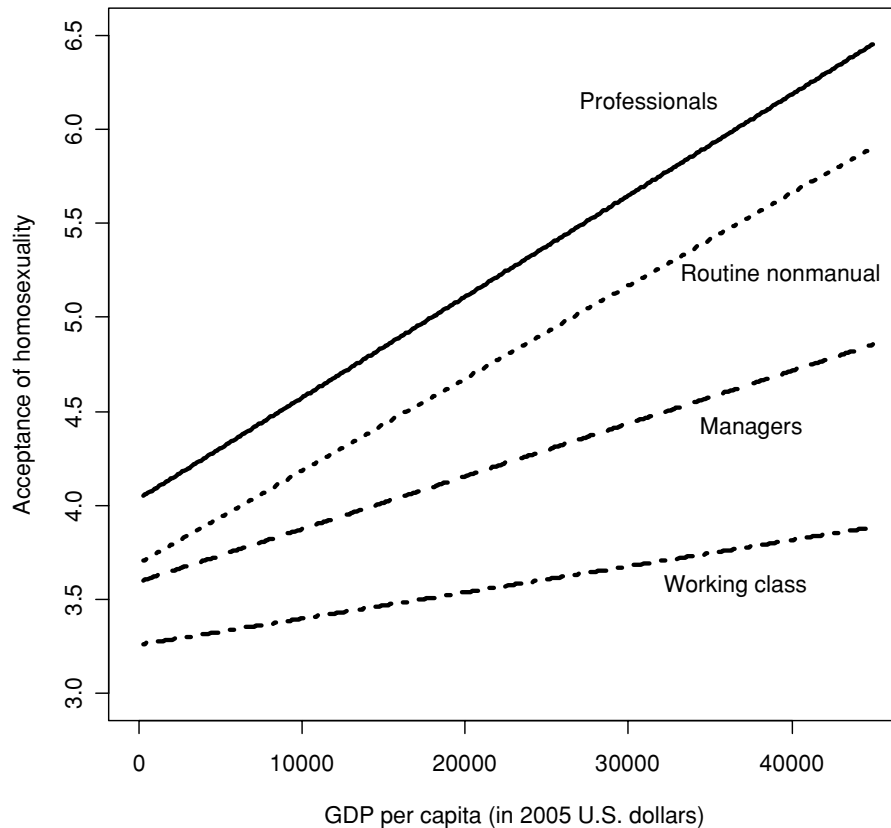
Model 3, which includes all four context variables, provides support for Hypothesis 3. More specifically, the effect of GDP per capita is reduced to one-fifth the size

(0.020 versus 0.098) and is no longer statistically significant. This large reduction in the GDP effect is largely due to the fact that countries that experienced Soviet-Communist rule tend to have much lower levels of GDP per capita than countries that did not experience Communist rule. On the other hand, the effect of the Gini coefficient changed very little despite controlling for the other context variables. These findings are consistent with those of Uslaner (2002), which indicate that inequality within nations is a more important predictor of tolerance than economic development. Nevertheless, as will become clear when discussing Model 5, economic development does matter, though not for all. The effects of former Soviet-Communist rule and religious composition are also consistent with previous research (see, for example, Inglehart and Baker 2000). Respondents from former Communist countries have an average tolerance score that is about 1.4 points lower (or about 14% less) than those from countries without a Communist history. The difference between countries coded as "other" and "mixed Christian" societies is about the same. The relative tolerance of mixed Christian societies may reflect a more general heterogeneity in these societies that results in greater acceptance of "other" groups, rather than the impact of religion *per se*.

Recall that Models 4 and 5 differ from the previous models in that they include random components for the effects of individual-level social class. In other words, these models allow social class to have different effects across the various social contexts. In support of Hypothesis 4, the results from Model 4 suggest that those from the working class are generally less tolerant than those from other classes, but that the difference varies according to national context. All of the variance components for the class effects are statistically significant and relatively large given the size of their fixed effects. Moreover, both the BIC and AIC values for the model indicate that it fits better than any of the previous models. The fact that class matters differently across contexts suggests the possibility that cross-level interactions between social class and the context variables may be important.

Model 5 allows us to test Hypothesis 5, which states that social class and GDP per capita interact in their effects on attitudes. As indicated in Table 2, the random effects for the social class coefficients are drastically reduced in this model, and the individual interaction terms representing the social classes are all statistically significant. The impact of this interaction on attitudes is rather remarkable. Consistent with this hypothesis, social classes diverge in terms of average attitudes toward homosexuality as the GDP per capita for the country increases. In order to better understand the differential effects of

FIGURE 1 Attitudes toward Homosexuality According to GDP per Capita (Measured in 2005 U.S. Dollars) and Social Class. Fitted values are from Model 5. All variables except social class and GDP per capita are set to typical values (i.e., means for quantitative variables and proportions for categorical variables).



GDP per capita according to social class, fitted values representing this interaction were calculated. In this regard, Figure 1 shows fitted attitude scores for all four social classes through the range of per capita GDP.¹¹ Contrary to what was found in Models 3 and 4, this model offers support for the postmaterialist theory that per capita GDP predicts postmaterialist values, *but this effect does not hold equally for all social classes*. Per-capita GDP matters most for the middle and upper classes (i.e., professionals and managers), where there is a strong positive effect. On the other hand, for the working class, per-capita GDP matters far less, and the effect is not statistically significant.

Confidence in Model 5 is buttressed by the fact that all of the random effects and both the BIC and AIC measures of fit are smaller than for any other model explored

¹¹Fitted values are calculated with all predictors except social class and GDP per capita set to typical values (i.e., means for quantitative variables and proportions for categorical variables).

in Table 2. In order to further ensure that the results are robust, competing models that included cross-level interactions between social class and the other three context variables were fitted. Table 3 displays the BIC values for models representing all possible combinations of these cross-level interactions. None of these models fit as well as Model 5, suggesting that Model 5 is the most appropriate model given the data that were employed.¹² This model suggests that both inequality *across* nations and inequality *within* nations affect tolerance.

¹²We also explored the possibility of nonlinear effects for GDP per capita by fitting a quadratic trend and by taking its logarithm. Neither of these methods provided a better fit to the data than the final models reported in Table 2. We also considered the possibility that income inequality and economic development had different effects according to democratic transition. These interactions were not statistically significant, however, and thus were not included in the final models.

TABLE 3 Bayesian Information Criterion (BIC) for Hierarchical Linear Models Containing All Possible Combinations of Interaction Effects between Social Class and the National Contextual Variables

Model	Interactions Included in the Model*	BIC
5	GDP per capita \times individual social class	292 866
6	Gini coefficient \times individual social class	292 909
7	Former Soviet-Communist \times individual social class	292 894
8	Religious composition \times individual social class	292 894
9	GDP per capita \times individual social class Gini coefficient \times individual social class	292 883
10	GDP per capita \times individual social class Former Soviet-Communist \times individual social class	292 894
11	GDP per capita \times individual social class Religious composition \times individual social class	292 930
12	Gini coefficient \times individual social class Former Soviet-Communist \times individual social class	292 912
13	Gini coefficient \times individual social class Religious composition \times individual social class	292 941
14	Former Soviet-Communist \times individual social class Religious composition \times individual social class	292 935
15	GDP per capita \times individual social class Gini coefficient \times individual social class Former Soviet-Communist \times individual social class	292 914
16	GDP per capita \times individual social class Gini coefficient \times individual social class Religious composition \times individual social class	292 954
17	GDP per capita \times individual social class Former Soviet-Communist \times individual social class Religious composition \times individual social class	292 960
18	GDP per capita \times individual social class Gini coefficient \times individual social class Former Soviet-Communist \times individual social class Religious composition \times individual social class	292 985

*All models include all individual-level predictors, the main effects of the four context variables (GDP per capita, Gini coefficient, former Soviet-Communist, and religious composition), and random components for the intercept and the social class effects.

Discussion and Conclusions

The goal of this article was to consider how economic conditions are related to attitudes toward homosexuality. It was initially guided by the postmaterialist thesis, which claims that economic development is a major contributor of a shift to more liberal values in modern industrial societies. Consistent with this thesis, it was found that per-capita GDP had a very strong positive influence on tolerance to homosexuality when no other contextual variables were included in the statistical models. When other important context variables were controlled for, however, the effects of per-capita GDP were reduced dramatically.

Further analysis that allowed per-capita GDP to interact with social class indicated that economic development matters significantly in the expected manner for professionals and managers but not for the working class. The findings also reveal that income inequality within countries was negatively related to tolerance toward homosexuality, regardless of social class. Taken together these findings suggest that the postmaterialist thesis requires qualification.

The first qualification is driven by research on social trust. The findings reported here are consistent with Uslaner's (2002) argument that economic inequality undermines social trust, which then produces social intolerance.

While the present research did not measure trust directly, it showed a clear link between high levels of economic inequality and low levels of social tolerance. Uslaner argues that a large social distance between the “haves” and “have nots” in society undermines social trust and produces more general negative attitudes toward minority groups of all kinds, including lesbian and gay people. The findings with respect to the impact of former Soviet-Communist rule are also consistent with research on social trust in Eastern Europe (see, for example, Inglehart and Baker 2000; Putnam 1993; Rose 1994). Similar to Inglehart and Baker (2000), this study found that former Communist rule has a strong negative effect on attitudes toward homosexuality. Contrary to their argument, however, this Communist effect is unrelated to economic development, which was controlled for in the statistical models. This finding suggests that cultural characteristics, which have less to do with economic development than with a lack of social trust related to Communist oppression, may be responsible for less tolerant attitudes. It is also possible that the Communist effect reflects other related factors such as varying levels of nationalism, the role of churches, and the size of lesbian and gay social movements (see, for example, Long 1999).

The individual-level social class effects uncovered in the present analysis lead to a second qualification to the postmaterialist thesis. Consistent with Svallfors (2006), it was found that tolerance for homosexuality is much more likely among professionals and managers than among the working class. This implies that cross-national studies of attitudes and values are misguided to automatically proceed as if national populations are homogenous in terms of how they react to national levels of economic prosperity. The results further demonstrated that class and national prosperity interact in their effects on attitudes. In other words, how national economic factors influence an individual's attitudes depends, at least in part, on the individual's position in the economy. On average, and controlling for other important predictors, the gap in attitudes toward homosexuality between the middle and working classes is greater in countries with high per-capita GDP than in others. Economic development is certainly important, then, but it cannot explain the divergence of attitudes according to social class. Simply put, the postmaterialist thesis does not apply equally to all groups within a particular country—economic development is important, but more so for those who gain most from it.

The findings with respect to social class also contribute to the recent debate over the usefulness of the concept to explain political phenomena in modern democracies (see Grusky and Sørensen 1998; Hout, Manza, and Brooks 1999). At the very least, they cast doubt on claims

that social class “no longer exists as a meaningful social entity” (Pakulski and Waters 1997, 667). Nevertheless, Weeden and Grusky (2005) have argued that class still matters but that modern societies have become too complex to employ large category class schemes similar to the one utilized in the present research. Finding such strong effects despite employing a variable that includes only four broad social classes is rather remarkable and makes the conclusion that class matters even more convincing. One might expect that the effects would be even stronger with a more finely grained social class variable. The WVS is not well suited to constructing more finely grained class categories, however. As a result, this issue cannot be properly explored until more appropriate data become available.

Although this article has focused exclusively on attitudes toward homosexuality, there is good reason to believe that results would be similar for many other postmaterialist issues. In fact, Inglehart and Abramson (1999) show attitudes toward homosexuality to be highly correlated to the commonly used postmaterialist index that is constructed from several other issues. Still, it is also possible that less controversial and less salient issues are affected less by economic conditions. Most research on postmaterialist values does not distinguish between attitudes regarding racial tolerance, gender equality, environmentalism, or homosexuality, and thus the possibility that there are differential effects according to particular issues is seldom tested. While correlated, these attitudes are certainly not identical, nor have they changed at the same rate over time (Loftus 2001; Treas 2002), suggesting an opening for future research to examine possible differential effects of economic development and income inequality.

Given that intolerance is generally considered to have negative consequences for political freedoms and more generally for the health of democracy (see, for example, Gibson 1989, 1992, 1998, 2008), these new findings have important implications for policy makers. The standard findings from research on postmaterialist attitudes suggest that tolerance is encouraged by policies that focus primarily on economic growth. In contrast, the present article's new findings suggest that policies with the primary goal of stimulating economic growth but that also result in greater inequality may produce increased levels of social anxiety and distrust that become expressed in negative attitudes toward minority groups. They further suggest that such policies could lead to weakened social cohesion due to an increased polarization along social class lines. The implications could be even more consequential when considered alongside findings from Sniderman and Hagendoorn's (2007; see also Sniderman,

Hagendoorn, and Prior 2004) recent study of multiculturalism in the Netherlands. Sniderman and Hagendoorn argue convincingly that policies designed to protect the distinctness of a minority group can have the unanticipated and opposite effect of producing hostility and intolerance toward that group. Given this finding, it is unlikely that public policies explicitly geared toward protecting the rights of minority groups could provide a significant counterbalance to economic policies that result in high levels of economic inequality. In fact, it is possible that such policies will only compound the effect of inequality on intolerance.

In contrast, policies that limit economic inequality, such as the progressive taxation and universal benefits of social democratic states, may encourage tolerant attitudes of people from all social classes. The findings of the present study are particularly relevant given recent research on the United States (Fischer and Hout 2006) and other modern democracies (Firebaugh 2000; Goesling 2001) that indicates inequality within nations has been rising over the past few decades. If this pattern of rising inequality continues, we might expect that general tolerance will decline. This conjecture is also consistent with early work by Inglehart (1987) implying that materialist concerns could once again become important if the role of the welfare state declined. Given that the present study did not look specifically at the impact of different types of policy, however, we can only speculate about these effects. Nevertheless, this question is certainly worth exploring in future research.

In conclusion, this article has shown that both *absolute* and *relative* economic security affect individual social attitudes. Overall economic prosperity promotes tolerance among those in good economic positions, while high levels of inequality suppress tolerance regardless of economic group. These findings do not discount the post-materialist thesis, but rather suggest that it must consider the role of inequality within countries rather than simply inequality across countries. In fact, these findings are consistent with the general idea of the postmaterialist thesis that wealth frees individuals from material concerns, allowing them to give attention to other issues. They also make it clear, however, that tolerance is not distributed equally across all classes within nations, and that the magnitude of these class differences depends on the level of economic development. Although the middle classes become more tolerant of homosexuality as economic development rises, the working classes have similarly less tolerant attitudes regardless of the level of economic development. Moreover, economic inequality diminishes social tolerance, regardless of levels of prosperity. In summary, these findings demonstrate that social tolerance is

likely to be highest in rich societies where the benefits of economic prosperity are relatively equally distributed among all members.

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