

An Investigation of Sexuality-Related Attitudinal Patterns and Characteristics Related to Those Patterns for 32 European Countries

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Abstract The major purpose of this study was to identify the sexuality-related attitudinal patterns and variables related to those patterns for 32 European countries. Data came from the 1999 to 2000 wave of the European Values Survey which included questions about attitudes toward adultery, abortion, casual sex, divorce, and homosexuality. Cluster analysis produced six patterns with the largest cluster containing 13 mostly Western European countries and the smallest cluster containing only the country Malta. Additional patterns included two clusters of former Soviet Bloc countries, a cluster with Ireland and Northern Ireland, and one with mostly Nordic countries. Applying Reiss's conceptualization of sexual ideologies and Inglehart and Welzel's modernization theory related to value change, variables hypothesized to be related to sexual attitudes included level of economic development, religiosity, dominant religious background, and degree of gender empowerment and traditional gender role attitudes. Findings are discussed with respect to hypothesis support and implications for future research.

Keywords Sexual attitudes · European values · Sexual ideology

A major purpose of this paper is to report and interpret the findings of a study investigating patterns of sexuality-

related attitudes in 32 European countries. Data for such attitudes comes from the 1999–2000 European Values Study (EVS). EVS consists of an established network of social and political scientists whose goals include documenting basic values and attitudes of the European population and examining similarities, differences, and changes in these views (Halman 2001). The EVS was initiated in the late 1970s. Researchers argued that European culture differed from other great cultures such as those in China, the Middle East, and the Americas. But they questioned the degree of homogeneity of values by Europeans. In addition, researchers wanted to have a basis for investigating the implications of attitude differences and similarities for European unity efforts. The 1999–2000 EVS assessed attitudes about abortion, adultery, casual sex, divorce, and homosexuality.

Since the late 1980s when the HIV/AIDS epidemic became well-known, social scientists in several European countries including Denmark, Estonia, France, Norway, Sweden, and the UK have conducted single country surveys of sexual attitudes and behavior of their own citizens (Bozon and Leridon 1996; Lewin et al. 2000; Haldre 2009; Knudsen 2009; Traeen et al. 2002; Wellings et al. 1994). Haavio-Mannila and Kontula (2003) and Haavio-Mannila et al. (2001) compared survey data about sexual attitudes and behavior in Estonia, Finland, Russia, and Sweden using questions that were not always identical. Bajos et al. (2003) used national surveys from 23 European countries to examine, birth, pregnancy, and abortion rates, contraceptive practices, sexual behavior, and incidence and prevalence of STIs/HIV/AIDS of young adults and adolescents. Hubert et al. (1998) reported findings related to sexual behavior and related HIV risk for 11 European countries. More recently, Kontula (2009) incorporated survey data from eight European countries in his compre-

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hensive analysis of four waves of Finnish national sex surveys. However, there have been few comparative studies of sexual attitudes of adults in more than a dozen European countries using the same questions. *The Continuum Complete International Encyclopedia of Sexuality* (Francoeur and Noonan 2004) has information on specified topics for 62 countries including many in Europe. Nevertheless, for about one third of the countries in the sample of this study, this encyclopedia provides no information, and further, attitudes are not directly listed as one of the topics to be included in describing aspects of sexuality for each country (p. viii).

Literature Review

Two international studies obtained samples from a variety of countries around the world and used cluster analysis to examine patterns of sexuality-related variables. The first of these studies (Widmer et al. 1998) included 24 countries, the majority in Europe and overlap with EVS countries of the present study. The goal of the Widmer et al. (1998) research was to look for patterns of approval/disapproval for types of non-marital sex. Of the 17 European countries, Ireland and Northern Ireland gave the least support for sex before marriage with less than half saying such sex was “not wrong at all.” Both Western and Eastern European countries reported middle range support for approval of sex before marriage. The most approving views of sex before marriage were from The Netherlands, Norway, Slovenia, Sweden, and Germany with over three fourths approving. For attitudes about homosexuality, of the European countries, participants in Hungary and Bulgaria expressed the most disapproval with over 80% reporting it to be “always wrong.” Other countries with high reports of homosexuality being “always wrong” were the Catholic countries of Northern Ireland, Poland, Ireland, and Slovenia. The Netherlands stood out as being most supportive of homosexuality with 19% reporting homosexuality to be “always wrong.” With respect to extramarital sex, five countries with large proportions of Catholics gave the highest disapproval ratings (74% to 81%) of “always wrong”: Northern Ireland, Ireland, Spain, and Poland, and Slovenia, and the lowest proportions of participants to report that extramarital sex was “always wrong” came from Russia (36%) and the Czech Republic (43%).

Finally, in Widmer et al. (1998), European countries in the “teen permissiveness” cluster were Germany, Austria, Sweden, and Slovenia, all geographically close except Sweden. European countries in the “sexual conservative” cluster were Ireland, Northern Ireland, and Poland and in the “homosexual permissiveness” cluster were The Netherlands, Norway, Czech Republic, and Spain. The remaining European countries were part of a “residual cluster” with no

particular pattern of sexual attitudes. Another important finding from this study was that attitudes toward non-marital sexuality were not organized on a simple continuum of restrictive (always wrong) to permissive (not wrong at all) for the types of non-marital sex. Participants in a country, for example, could have restrictive views on homosexuality and permissive views on adultery or vice versa.

Laumann et al. (2006) conducted the second international sexuality study using cluster analysis; these researchers examined subjective sexual well-being for adults, aged 40 to 80 in 29 countries, of which eight were Western European and overlap with the present study. Four aspects of sexual well-being were used as the clustering variables: emotional and physical satisfaction of sexual relationships, satisfaction with sexual health, and importance of sex in one’s life. Cluster analysis produced three clusters, of which one contained seven of the eight European countries and was described as the European-linked gender-equal sexual regime. The other two clusters were described as male-centered and contained mostly Middle Eastern and Asian countries. With respect to all four aspects of sexual well-being, men reported significantly higher means than women for all clusters. Compared to participants in the other two clusters, those in the European-linked gender-equal sexual regime cluster reported greater satisfaction with their sexual health and more physical and emotional satisfaction in their sexual relationships. It is worth noting that gender differences in subjective sexual well-being were less for the gender-equal cluster than for the two male-centered clusters. For all clusters, there were positive relationships between both emotional and physical satisfaction with sexual relationships and overall happiness. For the European countries, slightly over half of the men and about one third of the women reported that sex is highly important to them.

Research by Haavio-Mannila et al. (2005) found very little differences in attitudes toward homosexuality among participants in Estonia, Finland, and St. Petersburg. Women were more accepting of homosexuality, and men were more accepting of premarital and extramarital sex. With respect to casual sex, Estonians were most accepting and those in St. Petersburg least accepting. With respect to legal abortion, St. Petersburg participants were most accepting and Estonians least accepting. Those in St. Petersburg and Estonia were more accepting of male infidelity than Finns, and those in Estonia were more accepting of female infidelity than St. Petersburg or Finnish respondents. Kontula and Haavio-Mannila (2004) emphasized the strong sexual double standard of infidelity in St. Petersburg compared to an egalitarian standard in Finland. Fifty-three percent of men in St. Petersburg accepted casual affairs for husbands but only 15% for wives, whereas in Finland, two national surveys in the 1990s indicated that about a fifth of men accepted casual infidelity of both husbands and wives.

Kontula (2009) included comparisons between Finnish population surveys and surveys from the European Union funded New Encounter Module for following-up HIV/AIDS prevention in population surveys (NEM) project. Although NEM data from eight Western European countries provide information directly related to HIV risk, some of the variables allow comparisons with the present study, and the NEM surveys were conducted in a time period that overlaps with the administration of the EVS used in the present study. Finns reported the least permissive attitudes toward adolescent sexuality compared to all the NEM countries. However, consistent with their European counterparts, males in Finland gave more accepting views of adolescent sexuality than did females. With respect to approval of sex without love, men and women in Finland, Norway, and Spain reported similar percentages of acceptance with the overall average being a little over half. In Switzerland, Greece, and Portugal, approximately 30% of women approved of sex without love, and men in Switzerland and Portugal were the most conservative in their approval compared to men in the other countries. With respect to attitudes toward homosexuality, Spanish men stood out as the most accepting (about 70%) of male–male sexual relationships whereas about one half of men in Finland, Switzerland, Italy, and Norway accepted these relationships. Men in Portugal and Greece gave the lowest approval (about 20%) of sex between men. For women participants, percentages of acceptance were similar and in the 70 to 80% range for Finland, Spain, Switzerland, and Norway. Acceptance of sex between men was about 50% for women in Italy and Portugal and was less than 30% for women in Greece. In all countries, except Greece and Italy, higher proportions of women than men approved of sexual relationships between men.

Štulhofer and Sandfort (2005) reported findings from the World Values Survey of the mid 1990s about the justification of homosexuality and the view that sexual freedom should be limited. Although ex-communist countries found homosexuality less justifiable than their Western counterparts, countries in the East were divided in their views on sexual freedom. About half of these countries' citizens reported low proportions in line with their Western European counterparts in their agreement to limit sexual freedom, but the other half reported much higher proportions of the need to limit such freedom.

Theoretical Framework

Consistent with social scientists (e.g., Davenport 1976; Corrêa et al. 2008; Gagnon and Simon 1973; Reiss 1986) who argue for the social construction of sexuality, we also apply a sociocultural perspective. Thus, we assume that the dominant sexual ideology is determined by and related to

multiple aspects of a country. Reiss (1986) has written extensively about sexual ideologies. In his conceptualization, such ideologies are composed of two basic dimensions: gender equality and sexual equality. Gender equality is achieved when men and women have a balance of power in the economic, political, religious, familial, and educational institutions of society. Sexual equality is achieved when the same standards of sexual permissiveness are applied to men and women. Reiss categorizes ideologies as modern egalitarian or traditional male dominant. Tenets of an egalitarian sexual ideology support both gender and sexual equality. Reiss also states that those who accept an egalitarian sexual ideology tend to accept homosexuality and abortion. Reiss argues that acceptance of one kind of equality promotes acceptance of another. In his view, men and women come to accept an egalitarian sexual ideology through different paths. Women more easily accept equality in institutional roles, whereas men, known for their greater sexual permissiveness, are more likely to accept equality in sexual norms. Support for Reiss's theory was found by Lottes (1985). Reiss's conceptualization is similar to one described by Štulhofer and Sandfort (2005, p. 6) and illustrated in their figure of the social regulation of sexuality. In their view as well, gender roles and sexuality are depicted as having a reciprocal relationship to each other.

Tenets of the traditional male dominant sexual ideology are that men should have more power in basic societal institutions, gender roles for men and women should be different with women's roles confined more to home and family duties, and that a double standard of sexuality should apply to men and women. In this standard, men are allowed more sexual permissiveness and the sexuality of women is restricted. In addition, Reiss states that those who accept a male dominant sexual ideology also tend to be against both homosexuality and abortion.

The explanation of sexual attitudes we apply here is derived from Inglehart and Welzel (2005) who analyzed longitudinal data from both the EVS and World Values Survey to support their theory. Andersen and Fetner (2008), Gerhards (2010), Sandfort et al. (2008), and Štulhofer and Rimac (2009) have all used these same data sets and applied the theory of Ronald Inglehart and colleagues to examine determinants of homonegativity across cultures. In this theory, modernization refers to a process of development characterized by economic growth, rising levels of education and information, and diversification of human interactions. According to Inglehart and Welzel (2005, pp. 2–3), modernization is a process through which socioeconomic development brings about changes that promote gender equality, individual autonomy, and *self-expressive values* that include tolerant sexual norms and flexibility in institutional gender roles. In their view, when

people no longer have to spend most of their efforts toward meeting their basic survival needs, they can more easily focus on other matters that allow an expansion of choices and freedoms in multiple aspects of life, including sexual areas. Nevertheless, these social scientists emphasize that the process of modernization varies considerably and interacts with a country's cultural traditions such as its dominant religion and religious practices to impact the movement toward self-expressive values. With respect to religious background, evidence supports the view that in the European context, citizens of Lutheran–Protestant countries have more self-expressive values than citizens of Orthodox Christian or Catholic countries (Gerhards 2010; Štulhofer and Rimac 2009; Voicu et al. 2009).

For the present study, we define *self-expressive values* as ones that include accepting attitudes toward abortion, casual sex, divorce, and homosexuality, views that are consistent with Reiss's egalitarian sexual ideology (Lottes 1985; Reiss 1986). This is again in line with Inglehart and Welzel (2005) who state that self-expressive values facilitate human rights and reduce restrictions on human choice. The classification of acceptance of abortion, casual sex, divorce, and homosexuality as self-expressive values is not common in the sexuality literature. However, we believe this classification follows from the description of such values by Inglehart and his colleagues. Inglehart and Welzel (2005) explicitly state that reports of high justification of homosexuality are indicative of self-expression values. Justification of abortion, casual sex, and divorce would also be consistent with support for human rights and choice (Coleman 1998; Lottes 2000a, b). For example, sexual rights assumed to also be human rights and adopted by the World Association of Sexual Health include the right to decide whether or not to have children, the right to divorce, the right to express one's sexuality without discrimination due to sexual orientation, and the right to sexual pleasure in non-coercive relationships (Coleman 2007, pp. 20–21). In making this new classification of sexual attitudes tolerant of abortion, casual sex, divorce, and homosexuality as self-expressive values, we assume that such attitudes facilitate expansion of choice, freedom, and rights, defining characteristics of self-expressive values. We are updating terminology to be in line with recent scholarship that links sexual attitudes to rights and sexual rights to human rights. Such linkages make it possible to apply human rights frameworks and theories of attitude change to explanations of sexual attitudes. Thus, applying Inglehart and Welzel's (2005) theory of value change, as economic development increases, economic and physical security as well as health status also increase which in turn encourages the movement toward gender equality and acceptance of self-expressive sexual attitudes.

Following the breakup of the Soviet Union, citizens of most ex-communist countries experienced a decline in economic security and health services (Inglehart 1997). Štulhofer and Sandfort (2005) also discuss the increase in social insecurity, poverty, unemployment, and mortality rates as well as the decreased quality of health care and social protection public services in Eastern Europe. Such factors in these countries work against acceptance of self-expressive sexual values. Further, Štulhofer and Sandfort (2005) emphasize that data from the 1995–1997 World Values Survey show that gender equality is higher in Western compared to Eastern Europe. Support for the view that gender egalitarianism in Eastern Europe lags behind Western Europe is also provided by a 2001–2002 study by the World Health Organization. Researchers of this study (Ross et al. 2004) found that with the exception of Greece and the Czech Republic, female and male teenagers had their first sexual intercourse at more similar ages in Western Europe than in Eastern Europe where boys tended to be significantly younger than girls when they first had sexual intercourse. Social scientists generally agree that a large gap in age of first intercourse between males and females with the younger age for males is an indicator of male dominance (Weinberg et al. 1995).

The above theoretical arguments and studies cited support the following general hypotheses about how country characteristics are related to self-expressive sexual values: In countries (or clusters of countries) with higher economic development, better health indicators, lower religiosity, a Lutheran–Protestant religious background, higher gender empowerment, and lower acceptance of traditional gender roles, citizens will give more support for self-expressive sexual values than will citizens in countries (or clusters of countries) with lower economic development, poorer health indicators, higher religiosity, an Orthodox or Catholic religious background, lower gender empowerment, and more acceptance of traditional gender roles. The more characteristics hypothesized to be associated with self-expressive values a country has, the greater the support for self-expressive values will be in that country. Similarly, the fewer characteristics hypothesized to be associated with self-expressive values a country has, the less the support for self-expressive values will be in that country. More specifically, we expect Western European countries to report more acceptance of self-expressive sexual values than Eastern European countries.

The categorization of acceptance of sex outside of marriage, the fifth sexual attitude examined in this study, as a self-expressive value is problematic. Some may argue that affairs outside of marriage allow for more sexual freedom. Nevertheless, extramarital sex is a common characteristic of men in male dominant societies and has been often justified or excused for men (Reiss 1986).

Further, common assumptions of those who support more sexual rights for various groups is that along with such rights come responsibilities and the goal of doing no harm, and this includes considerations for one's partner. Thus, it is not clear how views on extramarital sex may be patterned with self-expressive sexual attitudes. Indeed, one of the purposes of this study is to examine how attitudes toward extramarital sex are patterned with other sexual attitudes. Therefore, the predictions we presented about self-expressive sexual attitudes do not apply to attitudes toward the justification of adultery. The predictions we make for this sexual attitude are that (1) in countries where citizens report high levels of religiosity, attitudes toward adultery will be more negative than in countries with lower levels of religiosity (Reiss 1986) and (2) in countries characterized by less gender equality, gender differences in attitudes toward extramarital sex will be greater than in countries characterized by more gender equality with men giving more justifications for adultery than women (Kontula 2009; Reiss 1986).

Method

Sample

Participants were those who responded to national surveys of 32 European countries in the 1999–2000 EVS. Guidelines for survey administration were provided and coordinated in order to achieve standardized information from all countries. In most countries, a stratified multistage strategy was used to obtain representative national samples. In all countries, samples were taken from the entire population 18 years or older. Members of each sample were interviewed using uniformly structured questionnaires. The interviews were generally carried out by professional survey organizations, using face-to-face interviews. The average response rate was 64% for Western European countries and 67% for Eastern European countries (see Halman 2001 for more information about data collection methodology). Table 1 lists the 32 countries with the number of respondents in each country sample.

Sexually Related Cluster Determining Variables

The questions on the EVS survey used to assess sexually related self-expressive values and attitudes toward extramarital sex were all of the same form: "Please tell me for each of the following whether you think it can always be justified, never be justified, or something in between where 1 = never and 10 = always." After this instruction, the following were listed: married men or women having an affair, homosexuality, abortion, divorce, and having casual

sex. The means on these five variables for men and women for each country were used as the ten clustering variables to identify countries whose interviewees gave similar responses to these questions. In determining the variables upon which the cluster analysis was based, we followed the suggestion of Aldenderfer and Blashfield (1984) who state that clustering variables should be of the same scale. We used means of male *and* female participants for each country as clustering variables rather than means for all participants in order to be able to determine if patterns differed between men and women in the clusters. There were no missing values for any of the cluster determining variables for any of the 32 countries.

Response Consistency and Explanatory Variables

We were able to include response consistency check variables for three of the sexuality-related variables: for justifications of abortion, adultery, and homosexuality. The consistency check variables for abortion were questions from the EVS about the approval of abortion under two specific conditions and one question about the restrictiveness of the country abortion law (Center for Reproductive Rights 2008). The adultery consistency check questions were from the EVS and asked about the importance of faithfulness and the importance of a happy sex life for a successful marriage. We reasoned that those who report more justification for adultery would also report less importance for faithfulness in marriage for a successful marriage and less value of a happy sex life between a husband and wife for a successful marriage. The two check questions for justification of homosexuality, also from the EVS, asked participants if they would object to having homosexuals or people with AIDS as neighbors. The check variables validated response consistency. For example, participants in the cluster associated with the most restrictive abortion law and lowest percentage of approval for abortion in two specific circumstances also gave the lowest justification of abortion. For another example, the ranking of a cluster's justification of homosexuality corresponded to its ranking of approval of having homosexuals and people with AIDS as neighbors.

The explanatory variables were grouped into three categories: economic development and health, religiosity, and traditional gender role attitudes and gender empowerment. In deciding on what variables to use, we were limited to data sources that included values of variables for all or most of the EVS countries. Some of the variables to measure economic development and health were those recommended and used by Inglehart and Abramson (1994) and Inglehart and Welzel (2005) such as gross domestic product and rate of economic growth. Five of the nine economic development and health variables were from the

Table 1 Means by gender for clustering variables for 32 countries in six clusters

Country (total <i>n</i>)	Homosexuality justified		Abortion justified		Divorce justified		Adultery justified		Casual sex justified	
	M	F	M	F	M	F	M	F	M	F
Cluster 1										
Austria (1,522)	4.77**	5.55**	4.74	4.58	5.65	5.97	2.63**	2.26**	3.25**	2.71**
Belgium (1,912)	4.84**	5.60**	4.36	4.55	5.48	5.78	2.86*	2.54*	3.11**	2.54**
Czech Republic (1,908)	5.14**	5.85**	5.42	5.56	5.87	5.90	2.90**	2.59**	3.34**	2.44**
Finland (1,038)	4.18**	6.18**	5.65	5.50	6.56	6.92	2.65**	2.19**	4.28**	3.68**
France (1,615)	4.82**	5.58**	5.54	5.66	6.16	6.41	3.68**	3.23**	4.21**	3.40**
Germany (2,036)	5.09*	5.52*	5.09	4.74	5.96	5.81	3.22**	2.59**	3.43**	2.81**
Great Britain (1,000)	4.46**	5.52**	4.76	4.51	5.52	5.66	2.46**	2.10**	3.80**	3.13**
Greece (1,142)	4.55**	5.24**	4.92	5.06	6.11	6.36	3.38**	2.65**	5.13**	4.25**
Italy (2,000)	4.47**	5.17**	4.23*	3.87*	5.25	5.05	3.08**	2.43**	3.65**	2.53**
Luxembourg (1,211)	5.44**	6.27**	5.13	5.20	5.86	6.24	2.65*	2.29*	3.82**	3.19**
Slovakia (1,331)	4.93	4.94	4.68	4.35	5.44	5.25	3.54**	2.88**	3.63**	2.87**
Slovenia (1,006)	4.04**	5.10**	6.07	6.29	6.51	6.65	3.95**	3.07**	4.71**	3.55**
Spain (2,000)	5.77	5.86	4.87**	4.30**	6.36	6.13	2.91**	2.08**	4.62**	3.25**
Cluster 2										
Belarus (1,000)	2.84	2.97	5.21	5.15	6.15	6.05	3.85**	2.86**	4.49**	3.40**
Bulgaria (1,000)	2.47	2.80	4.91	5.10	5.05	5.11	3.70**	3.12**	3.13**	2.35**
Estonia (1,005)	2.83	3.19	4.56	4.53	5.54	5.30	3.67**	3.06**	3.69**	2.64**
Russia (2,500)	1.99	2.24	4.62	4.86	5.02	5.26	2.73	2.51	3.13**	2.47**
Cluster 3										
Croatia (1,003)	2.48	2.90	3.82	4.06	4.62	4.65	2.75**	2.23**	3.64**	2.11**
Hungary (1,000)	1.43	1.44	4.08	3.90	4.75	4.35	2.51**	1.69**	3.33**	2.17**
Latvia (1,013)	1.75	2.02	3.72	3.80	4.43	4.59	3.14	2.96	2.81**	1.99**
Lithuania (1,018)	1.73	2.00	4.05	4.04	4.68	4.85	2.63**	2.16**	2.70**	2.12**
Poland (1,095)	2.65	3.00	3.75	3.45	4.50	4.68	2.10*	1.79*	2.45*	2.04*
Portugal (1,000)	3.28	3.42	3.95	3.73	5.61	5.37	3.10**	2.13**	3.16**	2.27**
Romania (1,146)	1.86	1.95	3.94	3.89	4.41	4.22	4.10**	1.77**	2.58**	1.46**
Ukraine (1,207)	2.23	2.42	3.73	3.92	4.48	4.45	5.10**	2.12**	3.25**	2.30**
Cluster 4										
Denmark (1,023)	5.78**	7.37**	6.86	6.82	7.19	7.45	2.13	2.08	4.01**	3.39**
Iceland (968)	6.47**	7.90**	5.44	5.22	6.47	6.62	1.56	1.38	5.33**	4.62**
Netherlands (1,003)	7.27**	8.38**	5.38	5.63	6.40**	6.94**	2.76	2.63	3.82	3.70
Sweden (1,015)	7.10**	8.32**	7.34	7.51	7.64	8.02	2.39	2.46	4.85	4.94
Cluster 5										
Ireland (1,012)	3.96	4.41	2.74	2.65	4.68	4.64	1.85	1.64	2.77**	2.14**
Northern Ireland (1,000)	3.66	4.09	3.22	3.02	4.97	4.81	1.95**	1.67**	3.51**	2.82**
Cluster 6										
Malta (1,002)	2.59	2.52	1.43**	1.20**	2.70	2.43	1.18**	1.05**	1.22**	1.04**

The greater the mean, the more justified the respondent views the activity

* $p < 0.01$; ** $p < 0.001$, independent samples *t* tests

Human Development Report (United Nations Development Program, 2002): 1990–2000 per capita annual growth rate, 2000 human development index, 2000 infant mortality rate, 2000 GDP per capita, and the 2000 under five mortality rate. The other four measures were the 2000 health

expenditure per capita from the Human Development Report (United Nations Development Program, 2003), the 2000 maternal mortality rate from Abou et al. (n.d.), and the percent who reported they were very happy and satisfaction with life ratings from the EVS. The measures

of religiosity were all from the EVS: percent reporting religion very important, percent reporting weekly religious service attendance, percent reporting attendance of a religious service more than once a month, percent reporting that the church gives adequate answers to social problems, percent believing in God, percent identifying as a religious person, and importance of God in respondent's life where 1 is least important and 10 is most important. We added the seven religiosity variables to form a religiosity scale which had a Cronbach alpha of 0.93 for this study. To form this sum, all variables measured in percent form were given a coefficient of one, and a coefficient of 10 was given to the variable which asked about the importance of God in the respondent's life; this was done in order to make all variables in the religiosity scale have a similar range. There were no missing values for the seven religiosity variables.

The five traditional gender role attitudes measures were from the EVS: percent reporting the family is very important, percent agreeing that jobs are more important for men than for women when jobs are scarce, percent agreeing that both a father and mother are important for a child to grow up happily, percent approving of women as single parents, and percent strongly agreeing that preschool children will suffer if their mother works. A final measure of gender role egalitarianism was the gender empowerment measure from the 2002 Human Development Report. No composite indicator was formed for gender role attitudes.

For all EVS variables, Great Britain and Northern Ireland are considered separate countries, but for the non-EVS variables assessing gender empowerment and economic development and health, the variable values used for Great Britain are for the UK which includes Northern Ireland. Although this should be considered when interpreting results for cluster means which include Great Britain, it likely only adds a small amount of measurement error. Great Britain's value for percent happy was missing, and in addition, Northern Ireland, Belarus, Bulgaria, France, Luxembourg, and Malta had no gender empowerment measure for 2002. An examination of gender empowerment measures indicated only tiny changes from the 2002 to 2005 Human Development Reports with the addition of a small number of additional countries each year. Thus, we were able to add gender empowerment measures from the 2004 Report for Malta and from the 2005 Report for Bulgaria (United Nations Development Program, 2004 and 2005).

Analysis

The plan was to first use cluster analysis to identify groups of countries whose citizens responded similarly to the five questions on sexual attitudes. Cluster analysis has been used to differentiate patterns of sexual attitudes for individuals (Laumann et al. 1994; Lottes 1985). We use

cluster analysis here to cluster countries in a similar way as applied by Widmer et al. (1998) and Laumann et al. (2006). The outcome of cluster analysis corresponded to the major goal of the study: to identify groups or clusters with similar values on the clustering variables. We used a hierarchical agglomerative clustering procedure with Ward's distance measure to determine cluster groupings (Hair et al. 1995; Norusis and SPSS Inc. 1988). According to Aldenderfer and Blashfield (1984), Ward's method is widely used in the social sciences, and this method minimizes the within-cluster variance and maximizes between-cluster variance. After the final number of clusters was determined, a series of ANOVAs were performed using the explanatory and response consistency variables as dependent variables and the cluster number as the grouping variable. We then examined cluster differences on the explanatory variables to determine if mean differences supported our hypotheses. Cluster procedures and ANOVAs were all done using SPSS for windows with country as the unit of analysis.

Even though cluster analysis provided valuable information for two previous studies with data sets with 24 and 29 countries (Widmer et al. 1998 and Laumann et al. 2006, respectively), finding patterns of sexual attitudes for only 32 countries is likely to result in clusters with only a few members. In this case, the application of ANOVA to identify statistically significant differences among the cluster groups is problematic because some group comparisons will likely involve groups with too few members for significance tests. For example, in the Widmer et al. study, two of the clusters contained only one country. Nevertheless, the values of the clustering variables in the Widmer et al. study were included, and this made interpretation and understanding of the reasons for the one country clusters obvious. In the present study, some of the final clusters were small, and like Widmer et al., our cluster analysis also produced a cluster with one member. Also like Widmer et al., an examination of the values of the clustering variables for the countries in the small clusters makes it clear why these countries are not grouped with countries in the larger clusters. Despite the fact that the small size of some clusters produced power problems, we decided to report the results of ANOVAs. Thus, for mean differences involving a small cluster, readers will need to evaluate for themselves the size of differences they consider to be meaningful. However, the ANOVA presentations allow readers to examine differences between means from both a significance and size of difference perspective for the larger cluster mean comparisons.

Results

The literature on cluster analysis does not provide a clear way to determine the number of clusters (Hair et al. 1995). In our case,

we were trying to identify interpretable patterns of sexual attitudes. So we stopped at a point when no new interpretable pattern appeared. In some cases of cluster analysis, the cluster or fusion coefficient is evaluated to decide on the number of clusters. However, this statistic was not helpful in our cluster analysis and did not indicate a better statistical choice in determining the number of clusters.

We settled on a final number of six clusters. Two of these final six clusters emerged in the *three-cluster* solution. One of these two clusters which we labeled *cluster 1* contains 13 countries: Austria, Belgium, Czech Republic, France, Finland, Germany, Great Britain, Greece, Italy, Luxemburg, Slovenia, Slovak Republic, and Spain. The second early emerging cluster, labeled *cluster 4*, contains four countries: Denmark, Iceland, The Netherlands, and Sweden. The *four-cluster* solution included these two clusters of 13 and four countries plus a cluster containing only the country Malta (labeled *cluster 6*) with the remaining 14 countries forming the fourth cluster containing Portugal, Ireland, Northern Ireland, and 11 post-communist countries. In the *five-cluster* solution, the 14 country cluster was divided into two clusters of four and ten countries with the four country cluster containing all former Soviet Bloc countries—Belarus, Bulgaria, Estonia, and Russia (labeled *cluster 2*). The *six-cluster* solution split the ten countries into a two-country cluster with only Ireland and Northern Ireland (labeled *cluster 5*) and an eight-country cluster of mostly former Soviet Bloc countries. This eight-country cluster (labeled *cluster 3*) contains Croatia, Hungary, Latvia, Lithuania, Poland, Portugal, Romania, and Ukraine. Because in the sequence

of cluster formation described above there was no cluster grouping where statistical criteria clearly supported the number of clusters, we examined patterns of the cluster determining variables to decide on the number of clusters. We stopped at six clusters because the *seven-cluster* solution which broke up the 13 country cluster did not produce a substantially different pattern. The final six clusters with their country membership and the means by gender and country for the cluster determining variables are presented in Table 1. Readers interested in additional descriptive statistics for this study's variables can consult the Halman reference for the EVS variables and the first author for other variables.

Means and standard deviations for each cluster for the cluster determining variables are presented in Table 2. For all clusters, the response patterns on these variables were nearly identical by gender. Of the five sexuality-related variables, the action that was most justified was divorce with a mean of 5.51 for the entire sample of European countries. Within each cluster, the highest mean was also for divorce with one exception to be discussed below. The means for the entire sample for justification of abortion, homosexuality, casual sex, and adultery were 4.58, 4.30, 3.15, and 2.56, respectively.

Table 3 displays means of each cluster for the response consistency check variables and the three types of hypothesized explanatory variables. For all ANOVAs, we had to exclude cluster 6 for it had only one member. For the variables with missing values for Northern Ireland, ANOVAs also excluded cluster 5. We emphasize again that for the clusters containing only two or four countries,

Table 2 Means (standard deviations) of cluster variables by cluster with *F* from ANOVA

Variable (mean)	<i>F</i>	Cluster 1 (<i>n</i> =13)	Cluster 2 (<i>n</i> =4)	Cluster 3 (<i>n</i> =8)	Cluster 4 (<i>n</i> =4)	Cluster 5 (<i>n</i> =2)	Cluster 6 (<i>n</i> =1)
Male sample							
Homo. justified (3.96)	64.12**	4.81ab (0.48)	2.53ae (0.40)	2.18bcf (0.61)	6.66ceh (0.68)	3.81fh (0.21)	2.59 (–)
Abortion justified (4.63)	21.47**	5.04a (0.52)	4.83h (0.30)	3.88ah (0.14)	6.26i (1.00)	2.98i (0.34)	1.43 (–)
Divorce justified (5.50)	20.32**	5.90a (0.42)	5.44 (0.53)	4.69ah (0.39)	6.93hi (0.60)	4.83i (0.21)	2.70 (–)
Adultery justified (2.77)	8.00**	3.07a (0.46)	3.49 (0.51)	2.63e (0.35)	2.21 (0.50)	1.90ae (0.07)	1.18 (–)
Casual sex justified (3.59)	5.75*	3.92e (0.62)	3.61 (0.64)	2.99e (0.42)	4.50 (0.71)	3.14 (0.52)	1.22 (–)
Female sample							
Homo. justified (4.55)	115.25**	5.57abe (0.40)	2.80ac (0.41)	2.39bdf (0.66)	7.99cdeg (0.47)	4.25fg (0.23)	2.52 (–)
Abortion justified (4.58)	16.38**	4.94ah (0.68)	4.91i (0.28)	3.85ai (0.19)	6.30j (1.06)	2.84hj (0.26)	1.20 (–)
Divorce justified (5.56)	24.38**	6.01ab (0.53)	5.43h (0.42)	4.65ai (0.35)	7.26hij (0.61)	4.73bj (0.12)	2.43 (–)
Adultery justified (2.31)	5.40*	2.53a (0.36)	2.89hi (0.28)	2.11h (0.40)	2.14 (0.55)	1.66ai (0.02)	1.05 (–)
Casual sex justified (2.82)	13.37**	3.10a (0.53)	2.72 (0.47)	2.06a (0.26)	4.16 (0.74)	2.48 (0.48)	1.04 (–)

Within a row, means with the same letter a, b, c or d differ significantly at $p < 0.001$; with letters e, f, and g differ significantly at $p < 0.01$; and with letters h, i, and j differ significantly at the $p < 0.05$ level; Tamhane post hoc test. Malta was excluded from the ANOVA because cluster 6 had only that one country

* $p < 0.01$; ** $p < 0.000$

Table 3 Means of additional variables by cluster with *F* values for ANOVA

	<i>F</i>	Cluster					
		One	Two	Three	Four	Five	Six
1990–2000 GDP per capita average annual growth rate	2.83	2.1	0.83	0.1	2	6.7	4
2000 Human Development Index	27.49***	0.906ab	0.794ac	0.811b	0.941c	0.93	0.88
2000 infant mortality per 1,000 live births	22.94***	5.15	16.5	12.63	4	6	5
2000 health expenditure per capita	16.53***	1,851ab	390ac	638bd	2,350cd	1,908	803
2000 GDP per capita	11.90***	23,387ab	7,924ac	8,905bd	26,785cd	29,866	17,273
2000 adjusted maternal mortality ratio	12.180***	10.23	49.25	22.63	5.75	5	21
2000 under five mortality rate	19.03***	5.54abc	19.00ad	14.75be	4.25cde	5	6
% very happy	19.54***	23ab	7a	11bc	44ac	45b	31
Satisfaction with life mean on a 1–10 scale (with 1 being unsatisfied and 10 satisfied)	18.89***	7.23ab	5.20a	5.73b	7.96ab	8.11ab	8.21
% reporting religion as very important	2.09	19	12	27	14	30	67
% reporting weekly attendance of religious services	4.50**	13	12	20	9	31	52
% reporting attendance of a religious service more than once a month	5.44**	31ab	14ac	38	15d	65bcd	87
% thinking the church gives adequate answers to social problems	3.68*	30	19a	39a	23	31	57
Reported importance of God on a 1–10 scale (with 1 being unimportant and 10 very important)	4.01*	5.7a	5.2	7	4.8	7.2a	9.2
% religious persons	4.08*	65	47	81	63	68	75
% believing in God	3.14*	75a	68	87	67	94a	100
Religiosity scale (maximum range 10–700)	5.12**	289a	222b	362b	239c	392abc	530
% reporting family very important	3.88*	86a	76	81	88	91a	96
% agreeing jobs are more of a right for men when jobs are scarce	8.02***	23ab	28	28cd	7ac	16bd	49
% agreeing both a father and mother are necessary for a child to grow up happily	8.88***	85ab	96a	89cd	66ac	68bd	93
% approving of women as single parents	1.37	42	48	49	54	30	15
% strongly agreeing preschool children are likely to suffer if a mother works	4.19**	18	19	18	5	6	32
2002 gender empowerment measure	12.25***	0.650a	0.541b	0.519a	0.815ab	0.68	0.480
% not liking people with AIDS as neighbors	16.27***	23ab	51a	48b	7ab	27	39
% not liking homosexuals as neighbors	13.32***	25ab	55a	57b	7ab	31	40
% males believing a happy sex life is very important for a successful marriage	1.41	65	57	57	60	70	83
% females believing a happy sex life is very important for a successful marriage	2.25	61	52	51	59	68	81
Abortion law permissiveness on a 1–5 scale (with 1 being restrictive and 5 permissive)	5.81**	4.62	5	4.62	4.75	2	1
% approving of abortion when a woman is married	7.96***	53a	59b	53c	74d	21abcd	1
% approving of abortion when a couple wants no more children	7.11***	51a	74a	57b	64	17ab	1
% reporting faithfulness in marriage as very important	10.81***	84a	69bc	78d	89b	95acd	97

Means with the same letter (a, b, c, d, e) within a row differ significantly, $p < 0.05$, Tamhane post hoc tests. Cluster 5 was excluded from the ANOVAs for the GEM and all economic and health variables except percent very happy and life satisfaction because the variables for which the ANOVAs are excluded are for one country only, Ireland. Cluster 6 was excluded from all ANOVAs for it contains only the country Malta

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

differences between means need to be large to reach statistical significance. Further, we often use terms such as high, low, highest, and lowest to indicate the *relative ranking* of cluster means with respect to each other. Significant differences in these relative rankings are indicated in Tables 2 and 3, and rankings should be interpreted within a European context.

Description of Clusters for Sexuality-Related and Explanatory Variables

After examining the human development index (HDI), we classified clusters 1, 4, and 5 as having high development (HDI ranged from 0.91 to 0.94), clusters 2 and 3 as having low development (HDIs were 0.79 and 0.81, respectively),

and cluster 6 (Malta, HDI was 0.88) as high-medium development. With respect to health indicators, clusters 4 and 5 were considered to have good health indicators, Clusters 1 and 6 good to medium health indicators and clusters 2 and 3 poor health indicators. For religiosity, Cluster 6 was very high (religiosity score=530), cluster 5 high middle range (religiosity score=392), cluster 3 middle range (religiosity score=362), cluster 1 low middle range (religiosity score=289), cluster 4 low (religiosity score=239), and cluster 2 very low (religiosity score=222). For gender empowerment, cluster 4 was very high (0.82), clusters 1 and 5 middle range (0.65 and 0.68, respectively), and clusters 2, 3, and 6 low (0.54, 0.52, and 0.48, respectively). Cluster 6 was associated with the most traditional gender role attitudes, cluster 4 the lowest with the other four clusters in between these clusters in support of such attitudes.

Cluster 1: Countries with Second Highest Self-Expressive Sexual Values Cluster 1 is the largest cluster with 13 countries, mostly Western European; but this cluster also includes Greece, the Czech Republic, Slovakia, and Slovenia. After divorce, the actions most justified in this cluster were homosexuality and abortion. In all but two countries, women reported significantly more justification for homosexuality than did men. In Italy and Spain, men reported significantly more support for abortion than did women. Casual sex was the fourth most justified action and adultery the least. Furthermore, for all countries of this cluster, men reported significantly more support for these two actions than did women. With respect to the other clusters, participants in cluster 1 gave the second highest justifications for all five actions. Compared to the other clusters, participants in this cluster gave the second lowest percentages (23% and 25%, respectively) of not liking people with AIDS or homosexuals as neighbors. Participants in this cluster were significantly more approving of abortion when a woman is married or if a couple wants no more children than respondents in the cluster made up of Ireland and Northern Ireland. Further, participants in cluster 1 valued faithfulness in marriage significantly less (84%) than participants in Ireland and Northern Ireland (95%).

Consistent with predictions, countries in this cluster illustrated that a high level of economic development and relatively high values of health are associated with relatively high (second highest) acceptance of self-expressive sexual values. If the hypothesized relationships are correct, the middle range rather than low values for religiosity and the low number of Protestant countries attenuated support for self-expressive sexual values. The dominant religion for nine of the cluster 1 countries is Catholic with two Protestant, one Orthodox, and one a combination of Catholic and Protestant. Participants in this

cluster reported a higher proportion of being very happy (23%) and more satisfaction with life than participants in the two ex-communist dominated clusters but a lower proportion of being happy and lower life satisfaction than participants in clusters 4, 5, and 6.

Cluster 2: Ex-Communist Countries with Mid-range Self-Expressive Sexual Values Cluster 2 consists of four Soviet Bloc countries. After divorce, the action that received the most justification was abortion. For men, the next most justified actions were, respectively, casual sex, adultery, and homosexuality; for women, the next very closely ranked justifications were for adultery, homosexuality, and casual sex. There were no significant gender differences in justifications for homosexuality, divorce, or abortion. However, the same pattern of gender differences found in cluster 1 characterized cluster 2; except for justification of adultery in Russia, men gave significantly more support for adultery and casual sex than did women. Compared to the other clusters, participants from the cluster 2 countries gave the most support for justification of adultery; were in the middle range of support for abortion, divorce, and casual sex; and gave low support of homosexuality. Participants from cluster 2 reported the least importance to faithfulness in marriage, low support for the importance of a happy sex life for a successful marriage, and over half would not like to have homosexuals or people with AIDS as neighbors.

The dominant religion for countries in cluster 2 is Orthodox with only Estonia characterized by both Protestant and Orthodox religions. Participants in this cluster's countries reported the lowest proportion of being very happy (7%) and the lowest satisfaction with their lives. If our hypotheses are correct, the explanatory variables operated in opposing directions to result in mid-range support for self-expressive sexual values for this cluster. For example, low religiosity worked to support such values but low values on economic and health variables worked to reduce this support.

Cluster 3: Mostly Ex-Communist Countries with Second Lowest Self-Expressive Sexual Values Cluster 3 contains eight countries, and all but Portugal are former communist countries. Similar to cluster 2, justifications of men from highest to lowest were for divorce, abortion, casual sex, adultery, and homosexuality. For women, these rankings were divorce, abortion, homosexuality, adultery, and casual sex. Similar to clusters 1 and 2, except for adultery for participants in Latvia, men gave significantly more support for adultery and casual sex than did women. Similar to cluster 2, there were no significant gender differences in justifications for homosexuality, divorce, or abortion. Compared to the other clusters, participants in cluster 3 gave the least support for justification of homosexuality,

low support for divorce and casual sex, and were in the middle range in their support for abortion and adultery. This cluster's low justification of homosexuality is consistent with their responses of not liking homosexuals (48%) or people with AIDS (57%) as neighbors. Similar to cluster 2, cluster 3 participants gave a lower value to the importance of faithfulness in marriage and a happy sex life for a successful marriage than participants in the other four clusters.

Most of the countries in cluster 3 are Catholic except Romania and Ukraine which are Orthodox and Latvia which has a mix of Catholic, Orthodox, and Protestant. Consistent with the predictions, this cluster's low economic development, poor health indicators, low gender empowerment, and lack of a Protestant dominant religion are associated with low support for self-expressive sexual values. Participants in cluster 3 countries also reported a low proportion of being very happy (11%) and indicated the lowest satisfaction with their lives compared to all the other clusters except cluster 2.

Cluster 4: Mostly Nordic Countries with Highest Self-Expressive Sexual Values Cluster 4 includes three Nordic countries and The Netherlands. For men, the justification rankings from highest to lowest were divorce, homosexuality, abortion, casual sex, and adultery. Unlike the rankings of any of the other clusters, women gave the most justification for homosexuality followed by divorce, abortion, casual sex, and adultery. Women gave significantly more justification for homosexuality than men in their respective countries. Similar to patterns of other clusters, there were no gender differences in justification for abortion and one country gender difference for divorce justification with women in The Netherlands reporting more justification. Unlike the other clusters, there were no significant gender differences for cluster 4 countries in justification of adultery. However, for two countries, Denmark and Iceland, men reported significantly more justification of casual sex than did women. Of all the countries, Sweden stands out as the country which gave the highest justification for abortion and divorce, whereas Iceland and Sweden stand out for their support of casual sex. Iceland was distinguished from the other 31 countries in having a very low justification of adultery compared to its high justification of casual sex. Compared to the other clusters, participants in cluster 4 countries gave the most justification for homosexuality, abortion, divorce, and casual sex but were in the middle support range for justification of adultery. Only 7% of participants in this cluster reported they would not like to have homosexuals or people with AIDS as neighbors. Cluster 4 participants also gave more support for the importance of faithfulness in marriage than their European counterparts in post-communist countries.

The explanatory variables for cluster 4 support the predictions that self-expressive sexual values are associated with high levels of economic development, good health indicators, high gender empowerment, low religiosity, a Protestant religious background, and low endorsement of traditional gender role attitudes. Cluster 4 participants reported a relatively high proportion of being very happy (44%) and were more satisfied with their lives compared to participants in clusters 1, 2, and 3.

Cluster 5: Ireland and Northern Ireland with Mid-range Self-Expressive Sexual Values Consistent with patterns in clusters 1, 2, and 3, men in this cluster also gave higher justifications for casual sex and adultery than did women, although the difference was not significant on justification of adultery in Ireland. Men's rankings of their justifications of the five activities from highest to lowest were, respectively, divorce, homosexuality, casual sex, abortion, and adultery. Women's rankings were similar except that abortion and casual sex were switched. Compared to participants in the first four clusters, those in the two cluster 5 countries gave the least support for abortion and adultery, were in the middle range of support for homosexuality, and gave similar low support with cluster 3 to divorce and casual sex. Consistent with their low justification of abortion, cluster 5 participants gave substantially lower approval for abortion when a woman is married (21%) and when a couple wants no more children (17%) than participants in the first four clusters. With the exception of cluster 6 participants, those from cluster 5 countries gave the most support for valuing the importance of faithfulness in marriage and for believing that a happy sex life is important for a successful marriage.

According to our hypotheses, the explanatory variables operated in opposing directions. On the one hand, this cluster's high level of economic development, good health indicators, and second highest gender empowerment should be associated with high self-expressive sexual values. However, its relatively high religiosity likely influenced low justifications for abortion. Cluster 5 participants reported a high proportion of being very happy (45%) and also a high level of life satisfaction.

Cluster 6: Only Catholic Malta with the Lowest Self-Expressive Sexual Values Participants in Malta gave the lowest justifications for abortion, divorce, adultery, and casual sex compared to those in other clusters. Malta participants' justification for homosexuality was low and closed to the low mean justifications of participants in clusters 2 and 3. Consistent with other clusters, men gave more justification to adultery and casual sex, yet these justifications were low for both genders. Participants in Malta reported the highest support for faithfulness in

marriage (97%) and for the importance of a happy sex life for a successful marriage (over 80%). Also anti-abortion views seem to be almost universal for only 1% approved of abortion when a woman is married or when a couple wants no more children.

With respect to our hypotheses, Malta provides mixed support. Its high religiosity and high support for traditional values are consistent with its low support for self-expressive sexual values. However, its high-medium values on economic development and satisfactory health indicators predicted higher support for self-expressive values. Compared to participants in countries of the other clusters, those in Malta reported the highest satisfaction with their lives and a mid-range proportion of being very happy (31%).

Hypotheses

As hypothesized, we found that respondents in the cluster composed primarily of countries with a Lutheran–Protestant background gave the most support for self-expressive sexual values. With respect to predominantly Catholic countries, there was great variation in support for self-expressive sexual values. Participants from the Catholic countries of clusters 3 and 6 reported a relatively low acceptance of self-expressive values, whereas those from the Catholic dominated Clusters 1 and 5 reported relatively high support for such values. This variation was also true for religiosity; for clusters 2 and 5, low and much higher religiosity, respectively, were associated with mid-range support for self-expressive values. Thus, the influence of religious background and religiosity on self-expressive sexual values is complex, and more information is needed about a country than aspects of its religion to predict degree of support for self-expressive values.

Observations by Bernik and Hlebec (2005) about the influence of religious background on post-communist countries may apply to the different degrees of religiosity found for cluster 2 (mostly Orthodox) and cluster 3 (mostly Catholic). They stated that the Catholic countries seemed to develop a more restrictive sex culture than was present in the Soviet era, whereas the Orthodox countries, despite also experiencing a religious revival, did not move as much toward sexual restrictiveness.

Our hypothesis that the rankings of gender empowerment, egalitarian gender role attitudes, and support for self-expressive sexual values would all be similar was partially supported. For clusters 4 and 6 with the most extreme values on these aforementioned variables, our prediction held; the prediction was also supported for cluster 5 characterized by mid-range values on the aforementioned three variables. For clusters 1, 2, and 3, there was one case where a mid-range rank on one the three aforementioned

variables was associated with either a higher or lower ranking value of one of the other two variables.

Our hypotheses about attitudes toward extramarital sex were partially supported. Consistent with the prediction, participants in clusters 5 and 6 reported both the highest religiosity and the least justification of adultery, participants in cluster 2 reported both the lowest religiosity and the most justification of adultery, and participants in cluster 1 reported relatively low religiosity and relatively high support for adultery. The association between religiosity and justification of adultery differed from expectations for clusters 3 and 4 where rankings on religiosity would have predicted less justification for adultery for cluster 3 and more justification for cluster 4. Consistent with the second hypothesis about adultery, we found that for the most egalitarian cluster, cluster 4, there were no gender differences in views on the justification of adultery. For the countries of all the other clusters, men reported more justification of adultery than did women, and these differences were significant for 25 of the 28 countries. This suggests that gender differences in justifications of adultery only become more similar in countries characterized by a high degree of gender equality.

Discussion

For the 32 European countries of this study, there were statistically significant differences between at least two of the clusters on justifications of all five sexuality-related attitudes for both men and women. Clusters differed most on justification of homosexuality and differed least on justification of casual sex. Except for The Netherlands and Sweden, men reported a higher justification for casual sex than did women, and men in most countries also reported a higher justification for adultery. Most post-communist countries were distinguished from the rest of Europe by low justifications of homosexuality.

For attitudes toward the justification of five sexuality-related activities, this research identified six patterns. Support for our predictions was best illustrated by the Nordic-dominated cluster 4. All the explanatory variables operated as predicted. High economic development, good health indicators, high gender empowerment, low support for traditional gender roles, mostly Protestant religious affiliation, and low religiosity were all associated with the most acceptance of self-expressive sexual values. This is consistent with our prediction that the more of these characteristics that are associated with a country, the more likely citizens of the country are to endorse self-expressive sexual values. On the other hand, the case of cluster 6, Malta, illustrates that one characteristic such as very high religiosity can be associated with low acceptance of self-

expressive sexual values. For clusters 2 and 5, there were factors according to our predictions that conflicted and were associated with mid-range support among the six clusters for endorsement of self-expressive sexual values. Cluster 1 participants reported the second highest acceptance of self-expressive sexual values and had more factors working to accept than reject such values, whereas cluster 3 participants reported the second lowest acceptance of self-expressive sexual values and had more factors working to reject than accept such values.

In a few cases, country membership in the clusters conflicted with our expectations. We had not expected Greece to be in the cluster with the second most self-expressive sexual values for the survey findings reported by Kontula (2009) leading us to believe that this country would be associated with more restrictive sexual attitudes. Nevertheless, Agrafiotis et al. (2004, p. 480) state that although Greece has been known as a patriarchal society, on the individual level, relations tend to be non-traditional and equitable. Another unexpected country grouping was the inclusion of Portugal in one of the ex-communist clusters. However, Kontula (2009) cited evidence indicating that Portugal was characterized by more restrictive sexual attitudes than other Western European countries, and this country is Catholic as are most of the other countries in its cluster.

We also expected Estonians to report more support for the acceptance of casual sex and homosexuality (Haavio-Mannila et al. 2005). Estonia is close to Finland, and professionals in those two countries have been collaborating on sexual health projects since the fall of the Soviet Union. Estonia is also a member of the Nordic Association for Clinical Sexology, its Ministry of Social Affairs and Institute of Health have been involved in multiple sexual health programs, and it has a more developed feminist movement than other countries in its cluster (Part et al. 2007; Haldre 2009). However, it is possible that economic, health, and crime concerns or other factors were primary in influencing sexual attitudes of Estonians (Kutsar 2002). The grouping of Estonia with Russia may also be partly due to the high proportion of Russians who have and are still living in Estonia.

Other Issues

Widmer et al. (1998) found that attitudes toward non-marital sexuality were not patterned in a simple permissive/non-permissive dichotomy. Consistent with Widmer et al. participants from clusters 1, 4, and 5, countries reported higher justifications for homosexuality than for either casual sex or adultery. Another non-dichotomous pattern was illustrated by cluster 2 men who gave more justification to casual sex and adultery

than to homosexuality. However, participants in cluster 6 and women's responses in clusters 2 and 3 were all similar in their justifications of forms of non-marital sexuality and did conform to a simple dichotomous non-permissive pattern.

Responses to the question about the importance of a happy sex life for a successful marriage deserve highlighting. First, a higher proportion of participants in the more religious countries—Malta, Ireland, and Northern Ireland—considered a happy sex life very important than respondents from the less religious countries. Second, over half of participants from all clusters reported that a happy sex life is very important for a successful marriage. In this regard, we recall the findings of Laumann et al. (2006) who stated that a substantial proportion of their Western European sample reported that sex was a very or extremely important part of their overall life. We find the acknowledgement of the importance of sex by Europeans worth emphasizing for this value can be used to argue for more and better sex education and sexual health services.

Another finding of this study that deserves attention is the pattern of gender differences in justifications of homosexuality. For countries in clusters 1 and 4 where higher justifications of homosexuality were given than in the other clusters, women in 15 of the 17 countries gave significantly higher justifications of homosexuality than did men. However, in all the other 15 countries where homosexuality justification was extremely low, there were no significant gender differences in this justification. These findings suggest that when attitudes toward homosexuality become more accepting in a country, women will have more positive attitudes toward gays and lesbians, but when the general tolerance and acceptance of homosexuality is low, there are minimal gender differences in such attitudes. In countries where respondents reported low justifications for homosexuality, there are cultural factors working together to keep acceptance low such as strong opposition from the main religion, association of support for homosexuality with Western imperialism, little formal sex education, poor economic and health conditions, and/or lack of feminist and lesbian, gay, bisexual, transgender, and queer organizational presence and/or efforts (Kon 2005; Lalo and Schitov 2005).

For nearly two decades, sexologists, health professionals, and feminists have focused on the acceptance of sexual rights as a mechanism to improve sexual health (e.g., Coleman 1998; Corrêa and Petchesky 1994; Lottes 2000a). A sexual ideology that supports sexual rights is one that includes self-expressive sexual values (Coleman 1998, 2007; Lottes 2000b). Inglehart and Welzel (2005) provide evidence that such values are unlikely to characterize countries where citizens feel threatened by economic security and physical harm. Their theory places a reduction

in such threats as necessary to bring about value change toward acceptance of human rights based sexual attitudes. A recent article by Anderson and Fetner (2008) highlighted the need to also consider the degree of economic inequality as a factor influencing attitudes toward homosexuality. Their research showed that a country's economic prosperity has differential effects on citizens. Those who benefit least from a country's wealth are also the ones who are most likely to be intolerant. Thus, these authors emphasize that if reduction of intolerance is a goal, then social policy should focus much more on reducing economic inequality within a country and not only on its overall economic development as Inglehart and colleagues have done. Thus, social policy should place more emphasis on the design of programs to reduce poverty, unemployment, crime, and large disparities in access to health services and other resources.

The differences in self-expressive sexual values between Eastern and Western Europe were documented in this paper. In this regard, Štulhofer and Sandfort (2005) stress that one major difference between these areas is the amount of sex education provided in the schools. In general, Western Europe, especially the Nordic countries and The Netherlands, provide much better sex education than Eastern European countries (Bacak et al. 2009; Bearinger et al. 2007; Buda 2006; Center for Disease Control and Prevention 2005; Lottes 2002; Macrea and Miclutia 2009; Vvedenskaya and Shilova 2009). Although, we cannot conclude from this study's findings that the well-established sex education programs in the cluster with the Nordic countries and The Netherlands is a factor in the greater support of self-expressive values by citizens of those countries, this association deserves further consideration. We believe it is likely that the strong opposition to sex education in the post-communist countries of clusters 2 and 3 is due to the low support for self-expressive values, whereas the higher support for such values has allowed The Netherlands and the Nordic countries to have well-established sex education programs (Popper et al. 2005; UNESCO 2009).

Limitations and Future Studies

One major limitation of this study is its measures of sexuality-related attitudes. Most studies of one or only a few countries include measures with good psychometric properties. There are several good scales, for example, that measure homonegativity, and these include questions about both gay men and lesbians. Researchers of homonegativity generally agree that the term homosexuality should not be used in a questionnaire item; rather, items need to distinguish between male and female homosexuals because studies often find significant differences in attitudes toward gay men and lesbians. The work of Haavio-Mannila and

Kontula cited in this paper illustrate another example of the limitations of the justification items of the EVS. The surveys of these researchers allowed respondents to report views separately for acceptance of infidelity of men and infidelity of women. By comparing responses of men and women to these more precise questions, they were able to specify how countries may differ with respect to egalitarian standards of sexual behavior. However, multiple-item measures present problems for long surveys such as the EVS which attempt to assess so many views. Restrictions on costs and interview time limit the number of questions social scientists would like to ask. A final concern of the EVS is the low response rates for some countries (Halman 2001).

More research is needed in each European country to determine how explanatory variables interact to influence sexual attitudes. This study only looked at binary relationships and assumed that the more characteristics hypothesized to be related to self-expressive values, the greater the support for such values would be. Thus, under this assumption for some clusters, there were countries where factors worked in opposing directions to support self-expressive values. One logical next step for future research is to develop a model of how factors hypothesized to influence self-expressive values might be related and to use the EVS and/or the World Values Survey to test such a model. In this effort, this study supports the view that all of the country characteristics considered here as explanatory variables should be included to test such a model as well as the addition of variables that measure inequality of wealth and resources and the quality and extent of sex education. The newest wave of the EVS, recently released for general use, includes the 32 countries of this study and 14 additional European countries. Thus, similar to the approach of Inglehart and colleagues, multiple waves of the EVS could be used to test models of sexual attitudes. We hope that this paper not only contributes to an understanding of the multiple patterns of European sexual attitudes and their associated country characteristics but also provides a framework for future studies.

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