No. S-097767
Vancouver Registry

IN THE SUPREME COURT OF BRITISH COLUMBIA

IN THE MATTER OF:

THE *CONSTITUTIONAL QUESTION ACT*, R.S.B.C. 1986, c. 68

AND IN THE MATTER OF:

THE *CANADIAN CHARTER OF RIGHTS AND FREEDOMS*

AND IN THE MATTER OF:

A REFERENCE BY THE LIEUTENANT GOVERNOR IN COUNCIL SET OUT IN ORDER IN COUNCIL NO. 533 DATED OCTOBER 22, 2009 CONCERNING THE CONSTITUTIONALITY OF s. 293 OF THE *CRIMINAL CODE OF CANADA*, R.S.C. 1985, c. C-46

EXPERT REPORT PREPARED FOR THE ATTORNEY GENERAL OF CANADA

By

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Part I--Introduction

1. The following report has been prepared in response to a contract by the Attorney General of Canada to produce an expert report on polygyny for the case referred above.

2. I am aware I have a duty to assist the court and that I may not be an advocate for any party. I have prepared this report in conformity with my duty to the court. If I am called upon to give oral or written testimony in relation to this matter, I will give that testimony in conformity with my duty to the court.

A: Expert's Qualifications

3. I am a Professor of Political Science at Brown University, located in Providence, Rhode Island in the United States of America. I hold a Ph.D. in Political Science from Stanford University. I also hold an M.A. in Experimental Social Psychology from Stanford University. I completed the pre-clinical core in psychiatry at the Stanford Medical School.

4. I have held several post-doctoral fellowships. I held a two year National Institute on Drug Abuse Post Doctoral fellowship in Treatment Outcome Research through the University of California, San Francisco Department of Psychiatry at the SF-VA. I had a John M. Olin postdoctoral fellowship in National Security Studies and a Women and Public Policy fellowship, both at Harvard University. I was a fellow at the Stanford Center for Advanced Study in the Behavioral Sciences, and I will be a fellow at the Radcliffe Institute for Advanced Study at Harvard University next year.

5. I have taught at Cornell University, the University of California at Santa Barbara, Harvard University and Brown University.

6. I have written three sole author university press books, co-edited two additional university press edited volumes, and over seventy peer-review articles and book chapters.

7. I am a recipient of the 2000 Erik Erikson Award for Early Career Achievement, given by the International Society of Political Psychology.

8. I work in the subfield of international relations in the area of security studies. My expertise lies in the area of political psychology in international relations, and I have published extensively on a wide range of topics, including experiments, applications of psychological theory to political problems, emotion and decision making, biological and genetic aspects of political decision making, and sex and gender. In particular, I work extensively on the area of sex differences in aggression.

9. I have studied polygyny for ten years, mostly in concert with Richard Wrangham, Professor of Biological Anthropology at Harvard University in Cambridge, Massachusetts. We began studying this topic after the 9/11 attacks when many people

became interested in the source of aggression toward western governments. Richard Wrangham believed that polygyny constituted an important source of such violence but we had no means to test this proposition empirically so I joined Valerie Hudson's Womanstats project with the specific goal of compiling systematic data on polygyny in order to test his hypotheses.

10. I have presented lectures on polygyny at the Stanford Center for Advanced Study in the Behavioral Sciences in March, 2009, and as the Inaugural lecture of the David Easton lecture series at the University of California, Irvine in January, 2010.

11. I am preparing comprehensive written work on polygyny which will be submitted for publication when it is completed.

B: Overview of Report:

12. I have been asked to address the following issues and present my opinion on them: (1) the impact of polygamous relationships on women's equality; (2) the impact of polygamous relationships on children, including child brides and the children of polygamous unions; and (3) the impact of polygamous relationships on the nation-state.

13. The following report begins with an overview of the existing literature on polygyny and its impact on issues related to women's equality, progeny's health and the nation-state. The second section provides a detailed analysis of empirical evidence on these topics that I have helped collect, in concert with others, through the WomanStats project. The third section provides discussion and arguments about patriarchy and sex ratio imbalances, two factors associated with polygyny that help explain its effects on women, children and the nation state. The final section contains declarations and data sources, followed by references.

14. Based on the best data available to date in the world, including the majority of countries across the globe, I find that in polygynous societies, women sustain more physical and sexual abuse. They have more children, are more likely to die in childbirth, and live shorter lives than their counterparts in more monogamous societies. In polygynous societies, women are more subject to sex trafficking and female genital mutilation while receiving less equal treatment than men, and encountering more discrimination under the law. In addition, girls are less likely to be educated, restricting a key component allowing for upward mobility and economic independence. In societies with high rates of polygyny, up to half of the boys are ejected from their primary communities, with incalculable effects on them. Moreover, the average individual in a polygynous society has fewer liberties than the average individual in a state which prohibits polygyny. A polygynous state spends more on average on defense, leaving fewer resources available for building domestic infrastructure, including projects devoted to health and education. This is quite a diverse set of effects, confirming the wide-ranging consequences of polygyny in societies in which women live as enforced second class citizens, and the states of which they are a part.

15. In combination with Professor Valerie Hudson at Brigham Young University, I have helped create a comprehensive database on topics related to women and children, called WomanStats (www.womanstats.org). This data has been compiled from credentialed and credible sources. For example, the CIA world fact book and the United Nations provide much of the data in this compilation. Some of the data can be very difficult to obtain and different sources may provide conflicting information; we provide comprehensive documentation on the sources of each variable in the database. This database in no way constitutes a wiki source where anonymous people can add unverified or possibly error ridden data at random. We carefully check the source of all our information. We cannot vouch for the accuracy of data collected by given governments, for example, because we cannot know how carefully such resources were compiled. However, we know that such data represents the best information available on a given topic, and certainly is preferable to anecdotal reports provided by individuals.

16. This dataset encompasses over 290 variables related to women and children. In deciding which topics to pursue, we tried to compile a comprehensive list of variables that are most likely to affect the health and welfare of women and children. These variables include topics such as citizenship, voting rights and legal representation, labor and employment issues, health topics including difficult to obtain data such as caloric intake or rates of harmful beauty practices, and violence, including rates of rape, murder and suicide. We do not have data for every country for every variable, but we have more comprehensive coverage on more topics than any other data base.

17. We have data for over 172 countries around the world. This constitutes every country in the world with a population greater than 200,000. This data base includes not only countries in Africa, Asia and the Middle East, but also includes Canada and the United States. This data exists free on the web. I have used this data to conduct an extensive analysis on topics related to violence and women, with particular emphasis on polygyny.

18. The WomanStats database was started by Valerie Hudson in the course of her research on the influence of sex ratio imbalances on the propensity for aggressive foreign policy behavior in Asia. This work resulted in her book, *Bare Branches* (Hudson & Den Boer, 2002). I was an anonymous reviewer on a manuscript from that book which resulted in a publication in the journal *International Security*. I allowed my name to be given out to the author in comments and she contacted me at that time. We began collaborating on a much more extensive data collection effort, which eventually grew to include over 260 variables in over 170 countries. Other collaborators included Professor Mary Caprioli from the University of Minnesota, Duluth, and Professor Bonnie Baliff-Spanvill and Chad Emmet at Brigham Young University. All data is screened, collected and coded by a large team of supervised research assistants.

C: Definition of Terms

19. To begin with, polygamy technically refers to conditions that encompass both polyandry (one woman marrying multiple men) and polygyny (one man having more than one wife simultaneously). The prevalence of polyandry remains quite low relative to polygyny.

20. Polygyny remains widespread across the world. Over 70 percent of societies known to anthropologists permit men to marry more than one wife (Coult & Habenstein, 1965). Because the documented consequences for polygamy related to women and children relate almost exclusively to polygynous circumstances, this report will henceforth discuss the consequences of polygyny only.

21. The sequelae documented here to do not extend to conditions where one man may have more than one wife sequentially over the course of a lifetime, where each independent relationship remains monogamous at any given moment in time, separated by formal and legal divorce proceedings between single wives.

Part II: Effects of Polygyny-Literature Review:

A. Introduction

22. The following section summarizes the prominent existing literature in regarding polygyny, drawn primarily from anthropology, but supplemented by work in economics and political science. These articles overviewed here do not represent a random collection. Rather, they represent a representative sample of the existing literature on the topic which I have carefully read and surveyed over the course of the last ten years. I am familiar with the seminal pieces in the field and familiar with the research upon which these seminal pieces are built. While I do not mention every article written on the topic below, because the literature is vast, I present an overview of the major findings from the existing literature below.

23. All the citations contained here are drawn from peer reviewed articles. The peer review process requires authors to go through a rigorous process whereby their work is sent by journal editors to other experts in the field, typically in a blinded fashion, in order to obtain their opinion, criticism and suggestions. Only the best work survives this critique and goes on to be published in well known journals. This is the work which conforms to the highest scholastic standard. This work is the research readers can be most confident represents an accurate portrayal of the conditions and analysis described. The authors of the pieces described below are considered experts in their area. While it would be impossible to describe every article or book written on polygyny, the literature described below constitutes a fair, comprehensive and representative sample of the extant work in the field. As an expert who has conservatively read several hundred articles or books on this topic over the last decade, I consider the research described

below to provide representative coverage of the major findings concerning polygyny.

24. I agree and adopt the opinions I report in this section drawn from other authors. This does not mean I agree with everything presented in every article or book. Rather, this means that I agree with those aspects of their work which I report and represent here. This research was conducted by accomplished experts in their field who are well recognized authorities whose work appears prominently in peer reviewed journals and presses.

B. Effects on Women

25. Much anthropological literature demonstrates that many negative consequences befall women in polygynous unions, as well as to children from such marriages. For example, wives in polygynous marriages fare worse financially, having smaller plots on which to grow land, smaller houses (among the Lango of Uganda (Brabin 1984) and the Yanamamö of Venezuela (Hames 1996)) and less money (reviewed by Omariba and Boyle 2007). Professor Michele Tertilt (2005) demonstrated that polygyny causes economic underdevelopment in sub-Saharan Africa in particular. Using a quantitative analysis, Tertilt finds that "banning polygyny decreases fertility by 40 percent, increases savings by 70 percent, and increases output per capita by 170 percent." (p. 1341).

26. Wives in polygynous unions are at risk of increased mental health problems. Evidence from Africa and the Middle East indicates that this risk most likely results from higher rates of domestic violence, including sexual abuse, in polygynous relationships (Cook 2007; Bove and Valeggia 2009). For example, polygynous wives in the Israeli Bedouin Muslim population display more psychological distress, problems in marital and family functioning and lower degrees of life satisfaction (Al-Krenawi & Graham 2006). However, conflict among co-wives in polygynous marriages clearly also adds to the sources of mental health problems (Chisholm and Burbank 1991, Jankowiak 2005, Low 2005).

C. Effects on Children

27. Children of polygynous unions show worse outcomes than children of monogamous marriages, as measured in a variety of ways. Among a pastoralist polygynous group Tanzania, such children weigh less (Sellen 1999). Strassman (1997) found that children of polygynous marriages in Mali proved 7-11 times more likely to die than their monogamously born counterparts, controlling for sex, age, economic status and other variables. In Ghana, older children of polygynous marriages also showed increased risk of mortality (Gyimah 2009). Such effects are not restricted to particular unique social groups or regional areas. Examining over a half million births in over 22 sub-Saharan countries in Africa, Omarib and Boyle (2007) determined that children born to polygynous marriages are 24 percent more likely to die than those born into monogamous unions.

28. Related research from a variety of fields clearly shows the negative effects of early sexual activity on girls (Brown et al. 2007; Miller et al, 2007). Early sexual behavior remains common in polygynous unions where young girls are typically married off to much older men. Female pre-pubertal sex goes hand in hand with polygyny, where young girls are often married to much older men and bear children in their young teens (Jessop, 2007). Kanazawa (2001) shows that polygyny rates are associated with early menarche, suggesting greater ability for young girls to bear children at younger ages. There is evidence that girls suffer serious damage to their life expectancy and well-being as a result of early sexual events (Brown et al., 2007).

29. Early sexual experience causes trauma to the physical body, which is not yet prepared for such events, and these experiences trigger certain genetic consequences including changes in genetic expression which can be irreversible, and may even transfer across generations genetically (unpublished grant). These events have long term consequences on health, making such individuals more susceptible to all kinds of diseases, including cancers, as a result of such early physical trauma. For example, one study showed that children suffering from adverse childhood events die about twenty years earlier than those do not experience such events (Brown et al., 2009); and such individuals fall prey to a whole host of typically age related illnesses and infections (Miller et al., 2009).

30. Another consequence of such practices is that children of young mothers do worse in society later in life, including increased risk for criminal activity, decreased rates of educational attainment, and decreased lifetime socio-economic status. One twenty year longitudinal study showed that children of young mothers proved more likely to drop out of school, remain unemployed, become young parents themselves, and engage in violent offences (Jaffee et al., 2001).

31. In cases where girls give birth frequently, risks remit to both the mother and child. Shortened inter-birth intervals pose a heightened risk for various problems. Births spaced less than twelve months apart raise the risk of both pre-term birth and recurrent pre-term birth (DeFranco et al., 2007). Although there are likely numerous causes of pre-eclampsia, shortened interbirth intervals also increase this risk (Skjerven, et al., 2002).

D. Effects on Men

32. Polygyny causes the proportion of young unmarried men to be high, up to 150 men to 100 women (Gat, 2000). Certainly anecdotal evidence suggests that polygynous communities must find a way to excise at least half of the junior boys, who are often cast off without skills or resources onto the surrounding society, in order to retain many more women for each man (Jessop, 2007; Jeffs, 2009).

33. Junior boys who are thrown out of such societies at much greater rates in order to make such a sexually asymmetrical system viable, often receive less education and achieve

lower levels of employment, as they are forced onto a society with few skills and no social support (Jeffs, 2009).

34. Because many junior males in polygynous societies will not be able to find a wife, polygyny therefore has the consequence of generating a class of largely poor, young unmarried men who are statistically predisposed to violence. For example, most homicides in Canada and the United States result from the actions of males aged 15-35. And among those murders, the majority is committed by men between the ages of 20-29; of that pool of homicides, the majority is committed by unmarried men (Daly and Wilson 1999). In 90 preindustrial societies, the structural causes of internal violence were found to be associated with polygyny as well (Ross, 1986).

35. This relationship has a social and physiological as well as economic basis. Mazur (Mazur & Booth, 1998) reports that men with high levels of testosterone, including unmarried men, are more likely to exhibit violent and antisocial behaviors, such as law-breaking, substance abuse, and other forms of aggressive behavior. In addition, he shows that age adjusted testosterone is not constant over time. Rather, male testosterone increases in the years surrounding divorce, and decreases in the years surrounding marriage, independent of age. Indeed, male testosterone drops in the time surrounding courtship and marriage, and drops further with the birth of each child (Gray et al, 2000). Thus, men married to women receive beneficent effects on their propensity toward violence and aggression relative to unmarried men.

36. The problem is not solely with the polygynously married men but with the larger number of men who must remain unmarried because fewer women remain available to them in a polygynous societal environment. In these cases, senior men perpetrate violence against junior men to push them out of the society so that they will not be able to compete for desirable women (Jeffs, 2009). This greater propensity toward violence in young men is likely supported, at least in part, by the higher levels of testosterone found within these youthful age ranges (Mazur & Booth, 1998).

37. Recent research indicates that 53 percent of the variance in sex differences in mortality can be uniquely explained by a combination of polygyny and economic inequality (Kruger, 2010). This work demonstrates that increased male mating competition in polygynous areas leads to riskier behavior on the part of adult men seeking mates.

38. Finally, polygyny has been linked with various kinds of violence among men, particularly internally directed violence. This type of violence is so-named because it is directed toward targets within the same society as the perpetrators (Whiting, 1964; Ember, 1974; Divale and Harris, 1976; Ross, 1986; Otterbein, 1994; Bretschneider, 1995). Bretschneider (1995) also found polygyny helped generate external war for plunder or captives.

Part III: Effects of Polygyny—Statistical Analysis:

A. Introduction

39. To the extent that limitations exist in the existing literature discussed in the section above, it derives from the scope of their investigations, which often remain limited to a particular country or group. This information can prove useful in understanding specific instances of a particular event, but rarely contains enough statistical variance or power to discern clear and meaningful statistically significant relationships between variables of interest. In other words, it is impossible to know how universal such anecdotal information is, or whether it can be generalized to the wider population. Only statistical analysis can provide reliable information regarding how widespread or universal the relationship between particular variables, such as polygyny and violence against women, might be. Using data which provides systematic, cross-country comparisons, I present information about exactly these kinds of relationships between polygyny, women's equality, the status of children, and the nation state below. This data serves to supplement, validate, and contextualize the anecdotal, narrative and regional information provided in the literature on the subject.

40. Poorer countries may be less able, and less inclined, to spend scare resources collecting data on the variables we examine here. As a result, some data will be missing, and other data may be inaccurate. I use the most reliable data available throughout.

41. I here provide the outcome of our statistical analysis, examining every country for which data exists for each outcome variable. In other words, not all results use every case because not every case had data available for every dependent variable examined; however, each variable examined includes every country for which reliable data exists. In my models involving quasi-continuous dependent variables, that is, variables which take on a relatively large number of values, ordinary least squares regression is utilized. I hypothesize a linear relationship between polygyny and a quasi-continuous dependent variable of interest such as the difference between the occurrence of HIV infection between women and men.

B. Sources of Data

42. The following represents a statistical analysis of systematic data regarding polygyny and its relationship to the dependent variables of interest regarding women, children and the nation state. This research is based on over ten years of data collection regarding women and children in over 172 countries in the world. The data regarding women and children comes from the WomanStats data project, which can be accessed on line at www.womanstats.org.

43. The data on the nation state comes from two well respected international organizations whose main goal is to collect the information we examine. The data on arms expenditures comes from the Stockholm International Peace Research Institute (SIPRI);

their data can be accessed on line at www.sipri.org. SIPRI describes themselves as "an independent international institute dedicated to research into conflict, armaments, arms control and disarmament" although they are supported, in part, by the Swedish government. Their data exists free on the web at www.sipri.org. They are widely considered to be an unbiased and world-class resource for this material.

44. The information regarding political freedoms and civil liberties comes from Freedom House, an independent non-governmental organization widely considered to provide the most accurate and comprehensive data on social and political freedoms for countries around the globe. Their information can be accessed at www.freedomhouse.org.

45. The WomanStats project constitutes a unique data set which provides extensive information about women's issues around the world, manifested in over two hundred variables measured across the arc of as many as 171 different countries. No other dataset on women's issues in the world ranks its equal, whether in terms of the breadth and depth of its coverage, the degree of its reliability checks, or the time spent in its creation. It literally is the best of its kind, and permits a comprehensive, comparative statistical analysis unlike any other.

46. In particular, the characteristics of the data are leveraged here to perform quantitative analyses of the relationship between polygyny and outcome measures for women such as domestic violence. The quantitative analyses performed here have the advantage of being comprehensive: all of the best data have been collected, meaning that all of the statistical tests employed are as immune as possible to the criticisms that the number of cases and variables is too small, and that the measures for any of the cases are not well-constructed and accurate.

47. A total of 18 outcome variables are considered here, comprising a rich variety of dimensions of women's lives, children's lives, and the influence on the nation-state, aggregated to the level of the state. Taken together, these variables show a systematic and negative influence of polygyny on women's health and equality, children's welfare, and the nation state.

48. Naturally, the state is not the only sort of unit of analysis: ethnic enclaves are one alternative, for instance. But states constitute the basic unit of analysis in the international system, and add comparative context to unique or anecdotal case material, particularly so when measures of the variables, such as polygyny, are arguably and reasonably homogenous across the sub-units which a state encompasses.

C. Variables Analyzed

49. The following primary analysis examines the following dependent variables of interest concerning the relationship between polygyny and:

    a. Discrepancy between law and practice concerning women's equality
    b. Birth Rate
    c. Rates of primary and secondary education for male and female children
    d. Difference between males and females in HIV infection
    e. Age of Marriage
    f. Maternal Mortality
    g. Life Expectancy
    h. Sex trafficking
    i. Female Genital Mutilation
    j. Domestic Violence
    k. Inequity in the Treatment of Males and Females before the law
    l. Defense Expenditures
    m. Political Rights and Civil Liberties

50. The variables analyzed below constitute the group of outcomes theoretically hypothesized to be most likely to be affected by polygyny. In other words, given how polygyny affects factors such as sex ratio imbalance as discussed in the following section, and given its inherent incentives and demands, it was possible to generate hypotheses about which factors related to women, children and the nation state might be affected by polygyny. The process of deriving testable hypotheses from existing theoretical models represents the standard way in which science progresses.

51. It is not possible to test every variable for its relationship to polygyny, so I test here those that appear most theoretically plausible and empirically tractable. For instance, I can hypothesize that polygyny is likely to lead to higher rates of prostitution but I cannot test for this relationship because not enough data exists to make it possible to examine this variable statistically. This does not mean that a significant relationship does not exist or might not be uncovered in the future when more comprehensive data might become available; it just means that we cannot know whether or not a statistically significant relationship exists currently because we are lacking the data to test it. So we must remain agnostic, baring additional data, on whether or not such a relationship exists. In addition, there may be other factors affected by polygyny which exist and we did not know or think to test or report here. However, every relationship discussed below fell within the conventional accepted standard for a statistically significant effect given a prior hypothesis. This means that the likelihood that such relationships occurred by chance and are actually unrelated to polygyny remain very, very low.

52. In this analysis, it is very important that I control for variables that might directly cause the outcomes I examine. In particular, I need to control for the effect of gross domestic product (GDP), measured in US dollars, on the relationship between polygyny as the cause and the other issues I examine. This is because other streams of literature have

long indicated a strong relationship between economic development and other aspects of women's rights (Sen, 1999). If poor outcomes toward women are entirely attributable to poverty, then naturally polygyny does not exert an impact, though such might be erroneously concluded if sole attention were paid to polygyny in the quantitative analysis. But controlling for gross domestic product allows for an independent analysis of the influence of polygyny on the outcome variables concerning equity which comprise my concern. Combined, these two characteristics constitute an incredibly powerful tool for the study of polygyny. I deductively assess the hypothesized relationship between cause (polygyny) and effect (say, domestic violence), and I do so all other things, including the wealth of a country as measured by GDP, being equal.

53. Outcome variables are often grouped together – for instance, "nominal", "ordinal", "count", and so forth – a key reason being that different groups of outcome variables may be particularly amenable for analysis by particular types of statistical techniques, or expressed differently. In statistics there is no one size kind of analysis that fits all.

54. Of the 18 variables I consider, some are "quasi-continuous", and others "ordinal". For the former type I use ordinary least squares regression, and for the latter I deploy ordered logistic regression.

55. Because the interpretation of the effects of polygyny and the discussion of the graphical representations of these relationships differ by technique, I consider the results from the ordinary least squares regression first, and those from ordered logistic regression second, and further separately and briefly overview each of the techniques.

56. Consider then ordinary least squares regression. The random or "error" component of an equation estimated by ordinary least squares regression is assumed to be continuous, and thereby it follows that the outcome variable must also be continuous on some range of the outcome variable.

57. But ordinary least squares regression is a very flexible and robust technique. Quasi-continuous outcome variables such as twelve of the variables examined here may be analyzed using the technique, for instance.

58. Often a strictly linear relationship between the dependent variable and the independent variable is tested for in an ordinary least squares regression – indeed, this is one of the textbook cases. I follow suit here, examining whether polygyny causes linear upward shifts or downward in the outcome measure under consideration.

D. Results of Analysis

59. The polygyny variable categorizes countries according to its prevalence. Countries were divided into five categories, ranging from places where polygyny is illegal and uncommon to places where it is legal and common, meaning more than 25 percent of women exist in such unions.

60. Now suppose I consider maternal mortality, scaled so that higher numbers indicate higher degrees of maternal mortality. I test whether polygyny has a linear effect on maternal mortality. What exactly does that mean?

61. Ordinary least squares regression determines, in two-space (x,y), a line of best fit for the scatter of data for the relationship between maternal mortality and polygyny.

62. What is important is that a statistical assessment can be done to ascertain whether the line of best fit has a slope of 0 as against the two-tailed alternative hypothesis that it is not 0.

63. It would be consistent with my prediction if the line of best fit has a slope greater than 0, confirmed by the results of a bivariate regression.

64. A complicating factor arises if there is another possible variable that is correlated with polygyny and also with the outcome variable.

65. In this case, the line of best fit from a bivariate ordinary least squares regression will not accurately reflect the true relationship between polygyny and the outcome variable – again, for instance, maternal mortality. Of particular concern is the possibility that the true relationship is dramatically overestimated in the bivariate case.

66. One alternative explanation can indeed be isolated in the case of outcomes towards women. Outcome variables about women may be a product of gross domestic product – increasing the latter produces more favorable outcomes for women.

67. Indeed, streams of literature have long indicated a strong relationship between economic development and other aspects of women's rights (Sen, 1999).

68. If poor outcomes toward women are mostly attributable to poverty (measured in terms of Gross Domestic Product (GDP), and poverty to polygyny, then polygyny does not exert the impact claimed for it by a bivariate regression. The slope will be too steep in a negative direction or in a positive one, and the slope might be spuriously shown to be statistically significant.

69. A solution to this problem is to estimate in three-space what is known as a "plane" of best fit – that is, a linear equation in which both variables potentially have a linear relationship with the outcome variable.

70. Employing this solution makes possible a joint statistical examination of the role of polygyny and Gross Domestic Product. Naturally there are limitations which are detailed in texts on econometrics, for instance (Greene, 2002).

71. But again these details, while certainly not beside the point, need nevertheless not detain us – the fact that the relationship between polygyny and outcomes towards women can be properly statistically estimated controlling for the influence GPD is what I wish to emphasize.

72. Visualizing a plane can be trying and more difficult, even impossible, to construct even with expensive statistical software. So I consider each variable in turn, starting first with a line of best fit that gives a glimpse of how strongly polygyny and a given outcome variable may be related (indeed are related in the bivariate context), and then proceed to a statistical summary of a multiple regression that ensures that polygyny is not appropriating what should rightfully belong to GDP.

a) Discrepancy between law and practice concerning women's equality

73. I begin with the variable called Discrepancy. Discrepancy is a variable that taps (a) whether a country's laws are in concordance with the United Nations Convention on Elimination of Discrimination Against Women (CEDAW) and (b) whether the country enforces these laws. We use the 2007 coding of this variable in this analysis. In the lowest category are those countries where CEDAW-consonant laws exist and are enforced while the highest category refers to countries in which CEDAW-consonant laws are not present or are not enforced. Intra-state conduct that is not consonant with CEDAW does occur more often in more polygynous societies.

74. Figure 1 displays the following: a "scatter" of the data displaying the actual values of discrepancy and polygyny; the line of best fit, which indicates a strong positive relationship between polygyny and discrepancy, as expected; and the confidence interval portraying the accuracy of prediction.

75. Further evidence of the effect of polygyny comes in the form of a multiple regression controlling for GDP. The fit statistic here used is distributed $F(2, 129)=75.62$, and this is of the magnitude which indicates that the variables are not jointly 0, at a high level of significance ($p<0.0005$). There is more evidence of an association, namely, $R^2=0.54$.

76. Polygyny retains an effect in the context of a multiple regression. The multiple regression coefficient for polygyny is positive ($\beta=0.240888$), and the two-tailed significance test of the null hypothesis can be rejected far beyond the conventional standard ($p<0.0005$). Thus, there is strong confirmation of the role of polygyny. As polygyny goes up, discrepancy rises.

-- See Figure 1 and Table 1--

b) Birth rate

77. Women in polygynous countries have more children, on average, than women in less polygynous states. Figure 2 presents the same visuals as Figure 1, and with the same punch line: polygyny substantially shapes the number of births per 1000 women per year in a state. The fit statistic with $F(2, 167)=109.23$, $p<0.0005$. It is extremely unlikely that the variables are simultaneously 0. To this it may be added $R^2=0.57$.

78. What then of the effect of polygyny controlling for GDP? Births per 1000 go up, as per the regression coefficient [$\beta=4.690576$] and the apparent rejection of the two-tailed statistical test [$p<0.0005$].

--See Figure 2--

79. The scatter of points in Figure 3 suggest that Births for Women Aged 15-19 in countries with higher degrees of polygyny are also on average more substantial, and this too is what is to be expected of the line of best fit, and also from the relative tightness of the confidence interval.

-- See Figure 3--

80. To compile multivariate evidence of the effect of polygyny, a multiple regression controlling for GDP was performed. The fit statistic with $F(2, 134)=41.57$ indicates that the variables are not jointly 0, at a high level of significance ($p<0.0005$). There is more evidence of an association in the form of the squared correlation coefficient, namely, $R^2=0.38$.

81. This regression indicates the separate effect of polygyny, what with a large and positive coefficient estimated as $\beta=16.885980$, with estimated standard error of 2.724238, and a *p*-value beyond what is conventionally required for rejection of the null hypothesis ($p<0.0005$). --See Table 2--

c) Rates of primary and secondary education for male and female children

82. Polygyny also exerts an effect on children's welfare. Girls are less likely to receive an education in primary or secondary school as polygyny become more frequent. The same holds true for boys as well. Boys are less likely to receive either primary or secondary school education in polygynous societies than those raised by their monogamous counterparts.

83. The rates of primary enrollment of girls in school are shown in Table 3 and Figure 4. Figure 4 suggests that in countries that have lower primary enrollments of girls, polygyny is more frequent, on average, this returned by the scatter of data and the line of best fit. The confidence interval suggests confidence in the predictions.

-- See Figure 4--

84. A two-variable multiple regression fits the outcome variable reasonably well. Indeed, $F(2, 156)=11.11$, $p<0.0005$, and $R^2=0.12$. As evinced by Figure 4, the coefficient

linking polygyny to primary enrollment for girls is negative (β-4.454723) and statistically significant (p<0.0005), as anticipated. This means that in polygyny countries, girls are less likely to attend primary schools.

85. The fifth outcome variable, secondary enrollment of girls in school, behaves in response to polygyny in the same way as that for primary enrollment. Figure 5 displays this, composed as it is with the scatter, the slope estimate, and the confidence interval.

-- See Figure 5--

86. The fit is better, however. Table 3 contains the results. F(2, 155)=102.90, p<0.0005, and R^2=.57. Moreover, it can be seen that secondary enrollment of girls declines as polygyny becomes more frequent (β=-12.064350), and in a statistically significant way (p<0.0005).

-- See Table 3--

87. What then of the sixth outcome variable and the seventh, namely, the degree of primary and secondary enrollment for boys in school? In both cases, seen in Figures 6 and 7, enrollment for boys appears structured at least partially by polygyny.

88. The slope of line of best fit is negative in both cases: countries with lower enrollments of boys in primary or secondary institutions are on average occurring in countries with higher levels of polygyny.

-- See Figures 6 and 7--

89. While these figures are suggestive, multiple regression is ultimately necessary to untangle the question of the role of polygyny for these outcome variables, and the technique for both outcome variables confirms how polygyny affects them controlling for GDP.

90. To begin with, for primary education the fit statistics [F(2, 156)=3.97, p<0.0209; R^2=0.05] suggest a relationship between GDP and/or polygyny and primary education for boys. Moreover, the slope ($\hat{\beta}$=-2.58122) is statistically significant (p<0.005).

-- See Table 4--

91. Moving to secondary enrollment, Table 4 shows a good fitting equation [F(2, 155)=94.90, p<0.0005; R^2=0.55], indeed far more so than for primary enrollment.

92. Moreover, secondary enrollment of boys in more polygynous societies is less common on average as indicated by the regression coefficient (β=-9.722135] and the two-tailed statistical test(p<0.0005).

d) Differences between males and females in HIV infection

93. Increased polygyny heightens the difference in the occurrence of HIV infection between women and men; women become more likely relative to men to suffer from HIV as polygyny becomes more common. The differences in HIV rates, as displayed by Figure 8, are loosely driven by polygyny: the line of best fit to the scatter cloud notes

that the difference between HIV rates between women and men becomes larger, on average, in countries more beset by polygyny.

-- See Figure 8--

94. The fit statistics for the multiple regression indicate a joint or possible one variable relationship is at stake [$F(2, 91)=4.85$, $p<0.01$; $R^2=0.10$], it should be noted that the estimated variance explained is not particularly impressive.

95. The relationship between the difference in HIV rates and polygyny survives a multiple regression analysis [$\beta=0.377731$] and the two-tailed statistical test ($p<0.064$). To be sure, the latter misses the .05 level, but it should be added that a one-tailed test is reasonable given the expected direction of the relationship, and this being the case, the multiple regression coefficient is significant at conventional levels ($p<0.032$).

-- See Table 4 --

e) Age of marriage

96. Women in polygynous countries are more likely to marry at a younger age than women in countries where polygyny is less frequent. The scatter of points in Figure 9 shows that female marriage age in countries with higher degrees of polygyny is on average lower, and the line of best fit reinforces this. The confidence interval adhere at a reasonable level about the regression line.

-- See Figure 9 --

97. Confirming demonstration of the effect of polygyny comes in the form of a multiple regression controlling for GDP. This has three parts. First, the fit statistic indicates that the variables are not jointly 0 [$F(2, 153)=54.84$, $p<0.0005$]. Second, there is more evidence of an association, namely, $R^2=0.42$, the squared correlation coefficient. Third, the slope coefficient is negative ($\beta=-0.751378$). There can be little statistical doubt the null hypothesis is false ($p<0.0005$).

-- See Table 5--

f) Maternal mortality

98. Women are more likely to die in childbirth as countries become more polygynous. The scatter of points in Figure 10, and the accompanying line of best fit and the confidence interval is consistent with the hypothesis that as polygyny gets more extensive so does maternal mortality, defined as the number of women who died in childbirth per 100,000 live births.

-- See Figure 10--

99. A multiple regression affirms that the coefficients linking polygyny and GDP to maternal mortality are not jointly zero [$F(2, 167)=42.83$, $p<.0005$; $R^2=0.34$], meaning that both GDP and polygyny, or one of these, contribute to maternal mortality. Multiple regression with GDP as a control produces results reinforcing what is suggested by the bivariate regression.

-- See Table 5 --

100. Polygyny has a separate role to play. Its corresponding coefficient is estimated as ($\hat{\beta}$=131.537200), with estimated standard error of 19.492820, and a *p*-value beyond what is conventionally required for rejection of the null hypothesis ($p<0.0005$).

-- See Table 5 --

g) Life expectancy

101. Longevity is also affected by polygyny. Life expectancy taps the average age at which women in a given country die. Polygyny and female life expectancy are inversely linked: more polygynous countries experience lower life expectancy for females. In other words, women in more polygynous countries die at a younger age on average, likely at least partly because they are more likely to die in childbirth as noted above. Figure 11 portrays in two-space the relationship between female life expectancy and polygyny, and the according line of best fit, surrounded on either side by the confidence interval. In polygynous societies female life expectancy is lower than in societies without it.

-- See Figure 11--

102. It can be seen from Table 6 that a multiple regression with polygyny and GPD as predictors fares well [$F(2, 153)=74.28$, $p<0.0005$; $R^2=0.47$]. The same may be said for polygyny considered on its own, GDP serving as a control. The coefficient is negative [$\beta=-4.479878$], and a high degree of confidence can be expressed in the rejection of the null hypothesis ($p<0.0005$).

--See Table 6--

103. Ordered logistic regression was used to estimate the relationship between the following dependent variables and polygyny, with GDP used in all analyses as a control: sex trafficking; female genital mutilation (FGM); domestic violence (DVS); and Inequity in Family Law. From a statistical standpoint this technique has many advantages over ordinary least squares regression when the dependent variable is comprised of a limited number of ordered, unevenly spaced categories.

104. Indeed, as J. Scott Long (1997) observes, ordinary least squares should be discarded in the analysis of an ordinal variable because it can produce "misleading results (p. 115)". He also argues that "prudent researchers should use models specifically designed for ordinal outcomes (pg. 115)." I do precisely that with my aforementioned dependent variables, given their limited number of categories and their ordered nature. This accomplishes the aim of getting the best estimates possible of polygyny's effect given the characteristics of the outcome variables.

105. Like my analyses of ordinary least squares regression, I do not discuss the effects of GDP in each section below. This permits me to conserve space and focus all the substantive attention on polygyny, this including a discussion of fit statistics, the coefficient linking polygyny to the outcome variable in question, expressed as an odds ratio, said coefficient's respective standard error, and finally a substantive interpretation of the role of polygyny given the results of the analysis. As will soon be clear, this interpretation is different than that in ordinary least squares regression.

h) Sex trafficking

106. Sex trafficking increases in more polygynous countries. This variable divides countries into five categories, based on their degree of compliance with the Trafficking Persons Act of 2000. The lowest signifies that there are laws against sex trafficking, while the highest means that sex trafficking is permitted and the country is not in compliance with the law. In the current analysis, the five point scale in the WomanStats database was collapsed into four categories because there were not a sufficient number of observations in two of the categories. Specifically, we collapsed the lowest two categories since only one country fit into the lowest category. When this happens, the coefficients cannot be properly estimated so this is standard practice in such cases. Table 7 displays the results of a proposed model of predictors consisting of polygyny and GDP. The likelihood ratio test for the model produces χ^2 (3)= 64.96, which yields $p<0.0005$. Consequently, it is very unlikely that the coefficients linking our independent variables to sex trafficking are both 0. The pseudo-R^2=0.17 suggests a relationship, though the degree cannot be quantified statistically.

-- See Table 7 and Figure 12--

107. A two-tailed test for the hypothesis that polygyny has no effect on sex trafficking may be rejected using a standard level of significance ($p<.047$). One demonstration of the effect of polygyny is via the odds ratio: a movement from one level of polygyny to one immediately subsequent to it increases the odds of being in the uppermost category of the ordered, discrete sex trafficking scale versus the other categories by a factor of 1.25 times, GDP controlled.

-- See Table 7--

108. Envisioning the effect of polygyny on sex trafficking via an odds ratio can be supplemented with a consideration of the effect of polygyny on predicted probabilities associated with categories of sex trafficking. In calculating the degree of association, though, it needs emphasizing that while odds ratios do not turn on the values of polygyny or GDP – where they are fixed, in particular – the predicted probabilities for sex trafficking must be calculated for levels of polygyny and some fixed value for GDP.

109. This is due to the fact that the probabilities associated with categories of the dependent variables are non-linear expressions of the independent variables: the interpretation of the effect of polygyny for one (fixed) value of GDP may be somewhat different than that for another, and whereas the odds ratio associated with a shift from one level of

polygyny to the one immediately following is that same regardless of whether one starts with, say, polygyny=2 or polygyny=3.

110. However, the same is not true when the matter turns to predicted probabilities for sex trafficking, or any of my other ordinal dependent variables. Even so, while caution must be exercised, it is still the case that a portrait of predicted probabilities has a substantive and visual appeal, particularly when accompanied by a figure plotting the effects.

-- See Figure 12 --

111. Such is the case with Figure 12. The y-axis ranges from 0-1, as expected. The x-axis is polygyny, with graphically represented steps of 1 from 0-4, also expected. What do the lines represent: how can they be interpreted?

112. For a particular category, say sex trafficking=4, the lines trace the effect of polygyny from 1 level to another, and further, across its range– how a change, say, from polygyny=2 to polygyny=3 alters the predicted probabilities of sex trafficking when the value of sex trafficking is 4.

113. Notice also that the slopes linking various categories step by step through the range of polygyny are not identical. For instance, when sex trafficking=1 [(p=1)], its associated predicted probabilities generally go down when polygyny goes down, while the general movement of predicted probabilities when sex trafficking=4 goes up as polygyny becomes more common.

114. What this means, in fact, is that as polygyny becomes more frequent, trafficking becomes more prevalent and women more victimized. As signaled by the figure, the leap in predicted probabilities for this value of trafficking is impressive, particularly since GDP is controlled at its median value, a good choice given that this is a measure of central tendency.

115. But it also visually demonstrates our mathematically determined knowledge of a non-linear relationship between polygyny and the predicted probabilities associated with categories of our ordinal variables. Though patterns can frequently be deduced, predicted probabilities change in different ways.

i) Female Genital Mutilation

116. Female Genital Mutilation (FGM), sometimes referred to as female cutting, also increases as countries become more polygynous. This practice exerts a detrimental effect on women's health because it can affect subsequent bladder, bowel and childbirth processes, particularly if it is badly done, or conducted under unsanitary conditions, as often occurs. This practice is often referred to as female circumcision but this represents a clear misnomer and euphemism. As Toubia (1994) writes in the *New England Journal of Medicine:* "The mildest form, clitoridectomy, is anatomically equivalent to amputation of the penis. Under the conditions in which most procedures

take place, female circumcision constitutes a health hazard with short- and long-term physical complications and psychological effects" (p. 712).

117. In my analysis, the highest category includes countries where more than 10%, and sometimes upwards of 50% of women have sustained such cutting. FGM is divided by countries into five categories and then collapsed into three for purposes of the analysis because of the small number of cases for particular values of the variable.

--See Figure 13--

118. The number of cases here is comparatively small, suggesting perhaps that caution is warranted in interpreting the results. But such is not written in stone; alternatively, it might be speculated that countries with the highest levels of FGM do not report this, perhaps looking away, perhaps encouraging it, the impact of this being a suppressor effect – the relationship might look even stronger were data available for all countries.

119. This said, the likelihood ratio test for my model of two variables is distributed χ^2 (3)= 48.53, which yields $p<0.0005$. So I can reject at conventional levels the hypothesis of a joint, null relationship between FGM and my two independent variables.

120. The pseudo-R^2=0.31, is the highest so far seen. A linkage between polygyny and FGM is confirmed statistically with a very high degree of significance ($p<0.0005$). 156)=3.97, $p<0.0209$; R^2=0.05] suggest a relationship between GDP and/or polygyny and primary education for boys. Moreover, the slope ($\hat{\beta}$=-2.58122) is statistically significant ($p<0.005$).This magnitude is especially impressive, and is confirmed by the shape of the lines in Figure 13. At its most extreme, FGM has predicted probabilities that move almost in lockstep with polygyny.

-- See Figure 13 and Table 7--

j) Domestic violence

121. Of critical importance is the question of whether polygyny helps cause violence toward women. To answer this question, an omnibus measure of domestic violence was employed, one that incorporates domestic violence, rape, marital rape, and honor killings, as well as the extent and strength of the enforcement of the laws prohibiting these crimes in any given state. And indeed, as confirmed in Table 8 and Figure 14 polygynous countries contain more domestic violence against women. Table 8 shows the likelihood ratio test for my model of two variables is distributed χ^2 (3)= 76.03, which yields $p<0.0005$. So I can reject at conventional levels the hypothesis of a joint, null relationship between Domestic Violence and my two independent variables. A supplementary suggestion of a relationship comes courtesy of the pseudo-R^2=0.19.

122. My test statistic suggests that one or both of my variables drive domestic violence, so what then of polygyny? A linkage between polygyny and the DVS is confirmed statistically with a very high degree of significance ($p<.001$). The odds ratio may be interpreted by assessing how moving polygyny by 1 unit upwards shifts the odds of being in the uppermost category of the ordered, discrete domestic violence scale versus the other categories of domestic violence. Indeed, the odds increase by 1.47 times, GDP

controlled. For the value of GDP we have chosen, it can be seen that domestic violence at its worst expression [p(4)], and as expressed in terms of predicted probabilities, goes up as considered across the range of polygyny (Figure 14). There is also a dramatic on-balance shift for the category of domestic violence=2 [(p=2)].

-- See Table 8 and Figure 14--

k) Inequity in the treatment of males and females before the law

123. Polygyny also affects the treatment of men and women before the law. Differences in the legal treatment of women versus men become greater, to the detriment of women, in more polygynous societies. I refer to this variable as inequity. Inequity measures the degree of equal treatment of men and women before the law. More particularly, inequity is defined as the relative standing of men and women under law, indexed on an ordinal scale. At the low end are countries where the legal age of marriage is 18 or higher, where women may choose their spouse, where divorce is possible, where both partners are treated equitably by law, where abortion is permitted, and where women may inherit property. Countries at the high end permit marriage at younger than 18 years of age, e.g., have laws that permit girls aged12 or less to be married. Table 8 contains the results.

124. My two variable model performs well, as expressed by a likelihood ratio test, with a distribution χ^2 (3)= 139.07, which yields $p<0.0005$. So I can reject at conventional levels the hypothesis of a joint, null relationship between inequity and my two independent variables. As noted and absent a distribution, the pseudo-R^2=0.27, conveys the same information as the likelihood ratio statistic.

-- See Table 8--

125. More evidence for the hypothesis that polygyny matters with regard to inequity comes in the form of a two-tailed statistical test of the null hypothesis that it does not ($p<0.0005$). The accompanying information about predicted probabilities, displayed in Figure 15, is difficult to summarize, and is perhaps my most notable manifestation of non-linearities. I observe what I would expect: dips on balance when inequity manifests in its greatest form as polygyny turns from its lowest to its greatest amount, and the reverse being so when polygyny travels from its greatest to its lowest, driving as it does inequity at its lowest level.

-- See Figure 15--

l) Defense expenditures

126. Polygyny also has effects that extend beyond the outcome variables already considered. Polygyny can also exert effects on various aspects of domestic and international politics for a given nation state. First, to the extent that junior boys who have been excised from polygynous communities become wards of the state, the cost of educating, socializing, housing, feeding and job training for them gets transferred from the family to taxpayers. Second, to the extent that secondary wives can obtain aid from the state under laws designed to help women with dependent children, financial costs for such support can escalate as well.

127. Moreover, the effects of polygyny on the nation state can be quantified along certain dimensions. States with higher rates of polygyny spend more money per capita on defense, particularly on arms expenditures for weapons.

128. More specifically, I test whether defense expenditures have a partial foundation in polygyny. Defense expenditures are surely a crucial foreign policy stance, an orientation towards the outside world and perhaps an indication of the inner workings of policy elites. So polygyny is examined here for the extent to which it can exert influential impacts beyond the private and domestic spheres.

129. I further investigate first whether states with high levels of polygyny concurrently have low degrees of freedom, the former being a cause of the latter, and the latter a crucial measure of the internal workings of the state and the quality of life for all citizens.

130. I begin with defense expenditures. The Stockholm International Peace Research Institute has collected data about defense expenditures per capita. A particular advantage of this measure, aside from its being well-respected and widely used, is that the unit of the analysis is the state, permitting what I have already done, particularly, a comparison of states with lower versus higher levels of polygyny, with states that have lower or higher levels of outcomes negative towards women, this on average. My question is whether this variable is related to polygyny.

-- See Figure 16--

131. Figure 16, complete with the scatter of data, the line of best fit, and the confidence interval, is consistent with the interpretation that states with higher amounts of per capita defense expenditures are more likely on average to have higher degrees of polygyny. Table 9 confirms this. The fit statistic confirms this marginally $F(2, 91)=2.73$, $p<0.0687$, and the squared correlation coefficient $R^2=0.22$. The coefficient is 0.228663, and is statistically significant at convention levels ($p<0.025$). I can conclude from this that states with higher expenditures are, on average, more likely to have higher degrees of polygyny as well. This is as I anticipated.

m) Political rights and civil liberties

132. Polygyny also influences the degree of rights and freedoms experienced by citizens in a given country. Specifically, states with higher rates of polygyny display fewer political rights and civil liberties than those which have less polygyny. To be sure, a good deal about the liberties women enjoy, and the ones stripped from them because of their gender, can easily be inferred using data from the project. But here the consideration is liberties more generally construed within society at large, those experienced by both men and women, and there is no measured analog for that in the WomanStats database project. On the other hand, Freedom House has an excellent, well-thought of omnibus measure, described as “freedom in world historical rankings.” A particular advantage of this measure is that the unit of analysis is the state, permitting what I have already done, particularly, a comparison of states with lower versus higher levels of polygyny,

with states that have lower or higher levels of outcomes negative towards citizens, this on average.

133. Summarizing the results of the ordered logistic regression, it can been seen from Table 9, χ^2 (2)=52.28, p<0.0005. Thus I can dispense with the null hypothesis that there is jointly no effect of the predictors of the measured level of freedom. It is also the case that polygyny survives as an influence, GDP controlled (p<0.0005. Though elsewhere not to be as diagnostic in the same ways as the likelihood ratio statistics, the pseudo-R^2=0.1463, suggestive of relationship between at least one of the variables and freedom.

-- See Table 9--

134. The odds ratio is .682354 and statistically significant (p<0.0005) meaning that moving one category upward in polygyny lowers by .682354 times that a country will be free as opposed to the two (ordered) alternative. The final figure visually shows how, when GDP is controlled for at its median, changes in polygyny affect the level of freedom of a state. As an example, look at the predicted probabilities for a state as "not free". These probabilities, when looked at when polygyny is absent, are lower than the predicted probabilities when at least 25% of women are captured by polygyny.

--See Figure 17 and Table 9--

Part IV—Causes of Observed Effects of Polygyny

A. Introduction

135. The following section details the logic of the argument connecting polygyny with negative outcomes toward women's equality in particular. I was asked to look at these factors as part of the preparation for this report.

136. There are myriad mechanisms by which polygyny potentiates violence against women and children. First, polygyny perpetuates and potentiates patriarchal control of women by men. In other words, polygyny fundamentally depends on and extends patriarchal control of women by men in order to maintain itself as a viable social system; polygynous systems remain patriarchal by their very nature. Second, polygyny creates harmful effective sex ratio imbalances in society.

B. Patriarchy and Polygyny

137. Polygynous family structures are intrinsically patriarchal by nature. Patriarchal structures serve to subjugate women. Women's *political* marginalization and loss of freedom has been traced to the eighth and ninth centuries, when international conquests and the acquisition of female slaves gave men exceptional power in sexual politics (Mernissi 1987).

138. Patriarchal control reinforces a particular prevailing family structure (i.e., polygyny) and economic system. Not only does polygyny increase the number of unmarried

unemployed or underemployed men, but it also serves to heighten the uneven wealth distribution that accompanies it. Among many other reasons, uneven wealth distribution represents an independent predictor of violence. For example, the Gini coefficient of inequality across household incomes accounts for most of the difference between homicide rates among 10 Canadian and 50 U.S. provinces (Daly and Wilson 1999). Polygyny is class-based, being concentrated everywhere in the wealthier families. Unmarried men accumulate in poorer classes. This is the group that grows up to provide a rich pool of recruits for the criminal class and terrorist networks. In addition, polygyny means that there will not be enough women to provide mates for lower status men, who will likely remain childless.

139. As Kandiyoti (1994) argues, inherent contradictions lie at the root of certain types of patriarchy; and, in the end, polygyny and the subjugation of women "ultimately mutilates and distorts the male psyche. (p. 198)." This results from the complex dynamic between the sexes in societies where the marital bond remains weak relative to the mother-child bond or bonds within sexes. Societies where men feel a stronger loyalty to their mothers than their wives encourage violence toward junior women by senior women who know that their sons will not oppose their actions.

140. In patriarchal societies, men maintain control over women in various ways. Male expectation of control over a daughter's marriage remains critical because a man's economic and social status is importantly determined by such marital alliances. A man who marries into a family with many strong and wealthy allies increases his local status through such an association. Arranged marriages are therefore traditionally preferred to love matches as a result of these economic and status incentives.

141. In patriarchal systems, a man uses his control to ensure that a woman marries not just to her advantage (as he perceives it), but more importantly to the advantage of himself. For example, a man might exchange a daughter to get a bride for himself. Or, by obtaining as high a bride-price as possible from another wealthy man, he could increase his wealth (and thus his own future marriage prospects). Male control over women is thus a key and intrinsic aspect of polygynous family life; indeed, it forms the very foundation of male social and economic status in polygynous cultures. Since personal power depends on such control, it is vital for men in such systems to control all aspects of female behavior to make sure that women do not challenge such political, social and economic domination.

142. In the service of maximizing the benefits from a marriage, a woman's value is enhanced by various practices that restrict her own romantic choices and promote her chastity, including claustration, genital mutilation, and veiling (Weisfeld 1993). Moreover, any man can feel dishonored by threats to the chastity and virtue of his female relatives, and killings of honor on behalf of these women may be committed by brothers or husbands in order to retain family status. However, fathers most often blame their daughters, and not the perpetrator, for violations of purity (Fallers & Fallers, 1976).

143. Control is supported by stringent punishments for women who flout cultural norms. As a result, women may be restricted in their public movements from the time of puberty.

Such limitation prevents many women from being able to get an education (confirmed statistically in a previous section), or from being able to achieve financial independence, and thus reduces her ability to leave polygynous communities through outside employment opportunities.

144. While the degree to which men exert literal physical control over women in particular societies remains contingent on a whole host of sociological and economic factors, men can exert dominance because they have hoarded and control the vast majority of the physical resources needed to survive, including money and property (Mealey, 2000; Rosen, 1978). As a result, women often remain at the mercy of those men who can provide for their sustenance, particularly if they have been prevented from obtaining a proper education.

145. A woman's position in these societies thus becomes largely determined by her marriage. Even so because divorce is so common, and can be granted by male fiat in many areas, a women's position in the hierarchy remains tenuous at best (Mealey, 2000; Rosen, 1978); indeed, men often retain control of all important resources, including custody of any children, while women revert to the status of property in the hands of other male relatives following divorce. Whatever security a women has thus results from the formal nature of her marriage contract and the strength of her family of origin, particularly her male relatives, and the status of her sons.

146. In patriarchal systems, female financial and social independence are feared not merely because of their material effects, but also because of the threat they pose to the cultural values and personal power of the dominant men. Specifically, the emancipation of women erodes men's control over their own families in culturally humiliating and emotionally painful ways. In short, the prospect of liberated women threatens male status as well as many sources of male alliance and economic resources (Hrdy, 2000).

147. In addition, female economic and social emancipation often also threatens the position of senior women in these societies, who are allowed to dominate junior women, such as daughters and daughters-in-law, as well as junior men, including sons. Female equality therefore provides a potent source of male -- and sometimes even female--support for polygyny, particularly in more patriarchal societies.

148. Note here that men are not necessarily the primary guardians of a culture which oppresses women in these circumstances; women actively participate in such repression because they refuse to give up control over those few cultural areas which have been relegated to them by men, including circumscribing the activities of their female family members. Senior wives, who retain control over their daughters and daughters-in-law, may also find their positions compromised by any threat to the existing patriarchal system.

C. Polygyny and a Sex Ratio Imbalance

149. Polygyny also contributes to the presence of large numbers of young unmarried men as a result of distorted overall sex ratios. Sex ratio imbalance can result from a number of causes, deriving from such factors as sex-selected abortion, female infanticide, high rates of maternal death in childbirth, and poorer health treatment for women.

150. High sex ratios of men to women occur, for example, in pastoral areas such Afghanistan and Pakistan, as well as other countries such as India and China. High sex ratios have historically been associated with intrasociety violence, aggressive foreign policy initiatives, and governments that, being aware of the threat to the stability of their own regime posed by organizations of unmarried men, tended to be repressive and authoritarian (Hudson & Den Boer, 2002). Such regimes often resort to strategies designed to divert mass numbers of young unmarried men into either mercenary or monastic activities. Polygyny remains problematic in this regard because for every man who has more than one wife, another man may not be able to find any wife at all.

151. In his study of the relationship between single men and social violence in American history, David Courtwright (1996) argued that, "(w)here married men have been scarce or parental supervision wanting, violence and disorder have flourished, as in the mining camps, cattle towns, Chinatowns, black ghettos, and the small hours of the morning." (p. 280). Similarly, in India, districts with higher ratios of men to women have higher rates of homicide (Dreze and Khera 2000).

152. Even terrorist groups understand the threat posed by large numbers of unmarried men. One of the most notorious terrorist groups ever, the Black September movement, was responsible for the seizure of Israeli athletes at the Munich Olympics in 1972. When Arafat's organization sought to dismantle this group out of fear that their violence would undermine broader political objectives, military leaders decided to simply marry them off. Through a system of financial incentives and structured "mixers", members of Black September married attractive young Palestinian women. When such men were later asked to leave the country with legal passports, not a single one agreed to go, for fear of losing his family because of past terrorist activities (Hoffman, 2001).

153. The Northern Ireland Prison Service used similar strategies when they offered early release to former IRA and loyalist terrorists. None of the men offered early parole through a system designed to reaffirm family ties ever returned to prison (Hoffman, 2001). Unmarried men simply have less to lose by engaging in violence, destruction and mayhem. They also have more incentive to seek dominance through less conventional, riskier and more dangerous means, in hopes of garnering the resources required to attract a wife.

Part V: Conclusions

154. Based on the best data available to date in the world, including the majority of countries across the globe, we find that in polygynous societies, women sustain more physical and sexual abuse. They get married younger, have more children, are more likely to die in childbirth, and live shorter lives than their counterparts in more monogamous societies. In addition, they are more likely to have higher rates of HIV infection relative to men in polygynous countries. In polygynous societies, women are more subject to sex trafficking and female genital mutilation while receiving less equal treatment than men, and encountering more discrimination, under the law.

155. Girls are less likely to be educated at both the primary and secondary level, restricting a key component allowing for upward mobility and economic independence. Boys too are less likely to be educated at both the primary and secondary level in polygynous societies.

156. Moreover, the average individual in a polygynous society has fewer political freedoms and civil liberties than the average individual in a state which prohibits polygyny.

157. A polygynous state spends more on average on defense, leaving fewer potential resources available for building domestic infrastructure, including projects devoted to health and education. This is quite a diverse set of effects, confirming the wide-ranging consequences of polygyny.

158. More generally, while some individuals certainly claim to benefit from being in a polygynous union, there has been no statistical demonstration that polygyny benefits most men or women, boys or girls or society considered as a whole. Nor are any such effects manifest in the vast majority of the peer-reviewed literature examining a smaller number of cases than would be permitted by statistical analysis. Perhaps such a defense of polygyny, unlikely though it may be, could be made and supported with data meeting the standards which we advocate – verifiable, comprehensive, valid, and reliable. But for now it is fair to state that while polygyny's negative effects are wide-ranging, statistically demonstrated, and independently verified using alternative analytical tools, its beneficial consequences are circumscribed and at odds with the welfare of most.

Part VI: Declaration and Data Sources

I am the person primarily responsible for the contents of this report.

The WomanStats database, which relies on various documents from numerous sources, all containing meticulous cites for each data point in the registry, constitutes the majority of the source documentation I have used in preparing this report. I participated in creating this database.

All literature sources are referenced, with citations provided below.

Rose McDermott, Ph.D.
Professor of Political Science
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Part VII: References

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Part VIII: Appendices

A. **Tables 1-9 (See Attached)**

B. **Figures 1-17 (See Attached)**

CURRICULUM VITAE

ROSE McDERMOTT

PERSONAL INFORMATION:

Address: Department of Political Science
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(805) 705-0465 cell

Email: Rose_McDermott@Brown.edu

EDUCATION:

1991 Ph.D. Stanford University, Political Science

1990 M.A. Stanford University, Political Science

1988 M.A. Stanford University, Experimental Social Psychology

1986 M.A. Columbia University, Political Science

1984 B.A. Stanford University, Political Science, with distinction

ACADEMIC APPOINTMENTS:

2008-current Professor of Political Science, Brown University

2008-2009 Fellow, Stanford Center for Advanced Study in the Behavioral Sciences

2006-current Senior Fellow, Stanford Center for Interdisciplinary Policy, Education and Research on Terrorism

2006 Visiting Associate Professor of Government, Harvard University

2004-2008 Associate Professor of Political Science
University of California, Santa Barbara

2002-2004 Assistant Professor of Political Science

University of California, Santa Barbara

1999-current John M. Olin Center for Strategic Studies Affiliate, Harvard University

1998-2002 Assistant Professor of Government, Cornell University

GRANTS AWARDED:

2003 UCSB Faculty Development Award

2001-2004 Department of Defense grant through Office of Net Assessment, Andrew Marshall director. Funding for book project on the impact of medical and psychological illness on foreign policy decision making, and a series of experiments on biology in international relations (with Professor Stephen Rosen, Harvard University). Total grant: $500,000

2001-2002 Cornell University Peace Studies Program

2000-2001 Cornell University Peace Studies Program

1999-2000 Cornell University Peace Studies Program.

1998-1999 Cornell University Peace Studies Program.

1996 Principal Investigator. Hepatitis B in Injection Heroin Users. Grant #P50-DA09253 National Institute on Drug Abuse through the University of California at San Francisco. SF-VAMC.

AWARDS AND FELLOWSHIPS:

2008-2009 Stanford Center for Advanced Study in the Behavioral Sciences

2001-2002 Women and Public Policy fellowship at the Kennedy School of Government, Harvard University.

2000 Erik Erikson Award for Early Career Achievement, given by the International Society of Political Psychology

1999-2000 John M. Olin postdoctoral fellowship in National Security Studies, Harvard University

1995-1997 National Institute on Drug Abuse Postdoctoral Fellowship in Treatment Outcome Research on Substance Abuse

1991-1992 Graduate School Fellowship in Psychology, New School for Social Research

1989-1991 Fellow, Stanford Center on Conflict and Negotiation

1986-1991 University Fellowship, Political Science, Stanford University

1988, 1990 John D. and Catherine T. MacArthur Foundation Summer Fellowship, Center for International Security and Arms Control, Stanford University

1985-1986 Graduate School of Arts and Sciences Fellowship, Political Science, Columbia University

RELATED EXPERIENCE:

2001 Participation in the Center for Strategic Education, School of Advanced International Studies, John Hopkins University, Eliot Cohen, Director

2001 Participation in the Summer Workshop on Analysis of Military Operations and Strategy, Columbia University, Richard Betts, Director

1995-1997 National Institute on Drug Abuse Postdoctoral Fellow at the University of California, San Francisco and San Francisco Veteran's Administration. Directed methadone maintenance program for veteran and research subject populations. Conducted treatment outcome research on substance abuse. Designed, conducted, analyzed and presented large study of Hepatitis B in injection heroin users. Developed measures for use in smoking cessation intervention research. Principle Investigators: Karen Sees and Sharon Hall.

1995-1997 Independent Contractor to HarperCollins Publishers. Revised and updated study guide and instructor's manual materials for new edition of text, *Psychology and Life*.

1995 Participation in Summer Workshop in International Relations, Hoover Institute, Stanford University. Run by Bruce Bueno de Mesquita.

1994-1995 Independent Contractor, National Institute on Mental Health, Susan Nolen-Hoeksema. Interviewer for longitudinal study of 1500 subjects on the effects of coping style and stress on physical and psychological illness and mortality for research on sex differences in depression.

1992-1994 Post-Doctoral Re-Specialization Program in Clinical Psychology, Pacific Graduate School of Psychology, Palo Alto, CA.

1992-1994 Independent Contractor, National Institute for Mental Health, Marvin Goldfreid and Louis Castonguey. Content analyzed transcripts of psychotherapy sessions using a component system for a study on the effects of theoretical orientation on treatment outcome.

1991-1992 Post-Doctoral Training in (Clinical) Psychology at the New School for Social Research, New York.

1991-1992 Consultant to Columbia Presbyterian College of Physicians and Surgeons, Mary Jane Rotheram-Borus. Assisted in background literature reviews, research, and preparation of manuscripts on adolescent HIV prevention.

1991-1992 Consultant to HarperCollins Publishers, Leslie Hawke. Prepared a student study guide and faculty guide to accompany a twenty-six episode public television program on introductory psychology. Wrote program summaries and sample study questions based on the television series as well as on the textbook, *Discovering Psychology*, that accompanies the telecourse.

TEACHING EXPERIENCE:

Courses taught at Brown:

American Foreign Policy
War in Film and Literature
Introduction to International Relations
Political Psychology

Courses taught at UCSB:

Graduate and Undergraduate International Relations Theory
American Foreign Policy
Political Psychology

Courses taught at Cornell:

Political Psychology in International Relations
Rational Choice Approaches to International Relations
American Foreign Policy
International Relations Theory (undergraduate and graduate)
Freshman Writing Seminar: Psychology of War Memoirs
Decision Making

Courses taught at Harvard:

Graduate and Undergraduate Political Psychology

PUBLICATIONS:

Books:

McDermott, R. (November, 2007). *Presidential Leadership, Illness and Decision Making.* New York: Cambridge University Press.

Abdelal, R., Herrera, Y., Johnston, A.I. & McDermott, R. (Eds.) (2009). *Measuring Identity: A Guide for Social Science Research.* New York: Cambridge University Press.

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McDermott, R. (forthcoming). Psychology and Constructivism: Uneasy Bedfellows? Concluding chapter in *Ideational Allies: Psychology, Constructivism and International Relations* ed. Vaughn Shannon and Paul Kowert. University of Michigan Press.

McDermott, Rose. Emotional Manipulation of Political Identity (forthcoming). W. LeChaminant (Ed.), Manipulating Democracy. Routledge Press

Bar-Joseph, Uri & McDermott, Rose. The Intelligence Analysis Crisis. 2010. Loch Johnson (ed), *Oxford Handbook of National Security Intelligence*. Oxford University Press.

McDermott, R. (2007). Experimental Political Science. In M. Webster & J. Sell (Eds.), *Laboratory Experiments in the Social Sciences.* Elsevier.

McDermott, R. (2009). Emotions and War. In M. Midlarsky (Ed.), *Handbook of War Studies III.* Ann Arbor, MI: University of Michigan Press.

McDermott, R. Emotion and Politics. (2007). In Marcus, G., MacKuen, M. & Neumann, R et al. (eds.) *The Political Dynamics of Feeling and Thinking.* University of Chicago Press.

Gerring, John & McDermott, R. (2006). "Internal Validity: An Experimental Template." In John Gerrring, *Case Study Research: Principles and Practice.* New York: Cambridge University Press (Chapter 6)

McDermott, R. & Zimbardo, P. (2006). The Psychology of Terrorist Alarms. In *The Psychology of Terrorism*. B. Bonger, L. Beutler, J. Breckenridge & P.G. Zimbardo (eds). New York: Oxford Press.

McDermott, R. (2006). Leadership Under Uncertainty. (pg. 289-299) In Graham Walker (Ed.)., Monograph, "The Search for WMD: Non-Proliferation, Intelligence and Pre-emption in the New Security Environment." *Centre for Foreign Policy Studies.* Canada.

McDermott, R. (2006). Prospect Theory and Bargaining. In *Escalation and Negotiation.* William Zartman & Faure (Eds). Cambridge, UK: Cambridge University Press.

McDermott, R. (2002). The Politics of Writing. In *Local Knowledges, Local Practices: The Cultures of Writing at Cornell*, ed. J. Monroe. Pittsburgh, PA: University of Pittsburgh Press.

Rotheram-Borus, M. J., and R. McDermott. (1997). Mental Health Needs of Runaway Youth. In *Handbook of Child and Adolescent Psychiatry*, ed. J. Noshpitz and N. Allessi. New York: John Wiley & Sons.

Book Reviews:

McDermott, R. (2009). Review of *Bounded Rationality and Policy Diffusion: Social Sector Reform in Latin America* by Kurt Weyland. *Comparative Political Studies.*

McDermott, R. (December, 2007). Review of *The Lucifer Effect* by Philip Zimbardo. *Political Psychology*.

McDermott, R. (February, 2007). Review of *War and Human Nature* by Stephen Rosen, *Grasping the Nettle* edited by Chester Crocker et al. and *Paving the Way* edited by Ronald Fisher. *Political Psychology*. 28(1): 127-133.

McDermott, R. (December, 2005). Review of *The Tormented President: Calvin Coolidge, Death and Clinical Depression* by Robert Gilbert. *Presidential Studies Quarterly*. 35(4):803-805.

McDermott, R. (April, 2006). Review of *Bare Branches* by Valerie Hudson and Andrea den Boer. *Political Psychology* 27 (2): 319-321.

McDermott, R. (2005). Review of *Leaders and their followers in a dangerous world* by Jerrold Post. *Political Science Quarterly* 120 (4): 681-2.

McDermott, R. (Fall, 2001). Review of *Threats and Promises* by James Davis. *Political Science Quarterly* 20 (3), 659-661.

McDermott, R. (March, 2000). Untitled review of *Collective Choice Processes and Foreign Policy Decision Making* by Irmtraud Gallhofer and Willem Saris. *American Political Science Review* 94 (1), 236-238.

McDermott, R., and J. Cowden. (May, 1999). Hit or Miss: Sociocognitive Approaches to Decision Making: Book review of Yaakov Vertzberger's *Risk taking in Foreign Military Intervention*. *International Studies Review* 1 (1), 123-125.

McDermott, R., and J. Cowden. (September, 1999) Untitled book review for Warren Christopher's *In the Stream of History*. *Political Psychology* 116 (3), 483-485.

Under Review:

Book Manuscript Under Review:

Hatemi, Peter & McDermott, Rose (Eds.). *Man is by Nature a Political Animal.* Cambridge University Press.

Articles Under Review:

McDermott, R., Fowler, J. & Christakis, N. Breaking Up is Hard to Do, Except When Everyone Else is Doing it too: The Spread of Divorce over 32 years in a large social network. *American Sociological Review*

McDermott, R. Methods for Homeland Security. For Paul Stockton (Ed.), *Homeland Security.* New York: Oxford University Press.

McDermott, R. Exploring New Directions in Experimental International Relations. For special issue of *International Studies Quarterly* on experiments, Alex Mintz & Rose McDermott(Eds.). (Revise and Resubmit)

McDermott, Rose. Ethical Challenges in Biological Research. For K. Monroe (Ed.) *Ethics and Public Policy.*

.McDermott, R. Experimental Intelligence. For S. Helfstein & Z. Maoz, *Intelligence and Research Methodology.*

McDermott, R. Economic Approaches, Prospect Theory and Risk Assessment. For R. Shapiro & L. Jacobs (Eds). *Oxford Handbook of American Public Opinion and the Media*

McDermott, R. Endocrinological Influences on Political Attitudes and Behavior. In Hatemi, Peter & McDermott, Rose (Ed.). *Man is by Nature a Political Animal.* Edited volume.

McDermott, R., Cowden, J. & Wrangham, R. Polygyny and Violence Against Women.

McDermott, Rose. Contributions to Political Psychology. Festschrift for Robert Jervis, ed. James Davis

Eaves, Lindon, Hatemi, Peter & McDermott, Rose. Where Genes and Culture Do Not Meet: The Diverse Nature of Political Attitudes

Hatemi, Peter, McDermott, Rose et al., The Sources of Gender Identity.

Hatemi, Peter, McDermott, Rose et al. Blinded by Fear? Psychopathology and Political Preferences. *American Political Science Review*

Hatemi, Peter & McDermott, Rose. Behavior Genetics and Foreign Policy Analysis. For A. Mintz (ed), *New Approaches in Foreign Policy Analysis*

Hatemi, Peter & McDermott, R. Evolutionary Psychology and Behavior Genetics in Politics. In Hatemi, Peter & McDermott, Rose (Eds). *Man is by Nature a Political Animal.* Edited volume.

Hatemi, Peter & McDermott, R. Introduction. In Hatemi, Peter & McDermott, Rose (Eds). *Man is by Nature a Political Animal.* Edited volume.

Hatemi, Peter & McDermott, R. Conclusion. In Hatemi, Peter & McDermott, Rose (Eds). *Man is by Nature a Political Animal.* Edited volume.

Koopman, Cheryl & McDermott, R. APPLYING PSYCHOLOGY TO INTERNATIONAL STUDIES: PROSPECTS AND CHALLENGES. *International Studies Review.*

In preparation:

McDermott, R. (Under contract, University of Michigan Press), *The Body Politic: How Disease Shapes International Relations.*

McDermott, Rose. Presidential Illness and Disability: Implications for the 25th Amendment. *Fordham Law Review*

McDermott, R., Dawes, C. & Hatemi, P. MAOA and Aggression: Gene-environment interaction in replicated twin sets.

McDermott, Rose, Tingley, Dustin & Wrangham, Richard. The Impact of Polygyny on Interstate and Intrastate Conflict.

McDermott, R., Klofstad, Casey, Cowden, Jon, Lopez, Anthony & Rogers, Ariel. The effect of question wording on political party identification.

McDermott, Rose & Herrera, Yoshiko. Cognitive Mapping and Identity. For APSA-CP section newsletter.

Bar-Joseph, Uri & McDermott, Rose. Contrasting Intelligence Success and Failure.

Davenport, Christian, & McDermott, R. Evolutionary Models of State Repression.

Hatemi, Peter & McDermott, Rose. Disgust and Political Preferences

Hatemi, Peter & McDermott, Rose. Normative implications of research into the genetics of political attitudes and behaviors.

Hatemi, Peter, McDermott, R. et al. Attitude Change and Stability.

Hatemi, Peter & McDermott, R. Introducing Political Ecology.

Hatemi, Peter & McDermott, Rose. Broadening Political Psychology. *Political Psychology. Special Issue on New Directions in Political Psychology.*

Hatemi, Peter & McDermott, Rose. The Political Psychology of Biology, Genetics and Behavior *Political Psychology, Special Issue (Guest Editors and Introduction).*

Johnson, Dom, McDermott, Rose, Cowden, Jonathan & Tingley, Dustin. Dead Certain: Partisanship and Confidence Predict Aggression in Simulated International Crisis Decision-making.

Kam, Cindy & McDermott, Rose. The Impact of Emotion on Framing: An Experimental Test.

Klofstad, Casey, McDermott, Rose & Hatemi, Peter. The Politics of Mate Selection: A Study of Match. Com

Krasnow, Max, Peter K. Hatemi, and Rose McDermott. The effect of political coalition categorization on argument assessment as mediated by voluntary information acquisition. *Political Psychology. Special Issue on The Political Psychology of Biology, Genetics and Behavior.*

Lopez, A., McDermott, R. & Peterson, M. B. (R) evolutionary Political Science. *International Security.*

Lopez, A. & McDermott, R. The Standard Social Science Model and the Evolution of International Politics. *Political Psychology.*

Lopez, A. & McDermott, R. The Evolution of International Politics. *Journal of Conflict Resolution*

Other publications:

McDermott. R. (1996). *Instructor's Manual to accompany Zimbardo-Weber* ***Psychology***. New York: Addison-Wesley.

Frost-Weston, M., and R. McDermott (1996). *Instructor's Manual for Zimbardo-Gerrig* ***Psychology and Life, 14th Edition***. New York: HarperCollins.

McDermott, R., and E. Goldberg (1995). *Discovering Psychology: Study Guide*. New York: HarperCollins.

McDermott, R. & Goldberg, E. (1995). *Discovering Psychology: Telecourse Faculty Guide*. New York: HarperCollins.

INVITED PRESENTATIONS:

McDermott, R. (November, 2009). MAO and aggression. Duke University. Christopher Gelpi.

McDermott, R. (October, 2009). Fear and Political Preferences. Dartmouth Dickey Center for Public Policy.

McDermott, R. (October, 2009). Biological Bases of Aggression. Government Department National Security Studies seminar. Harvard University. Steven Rosen.

McDermott, R. (September, 2009). Presidential Illness. Harvard Center for Public Leadership.

McDermott, R. (September, 2009). Sex Differences in Aggression. For Harvard Seminar on Trust, Emotion, Ethics and Morality in Negotiation and Decision Making (TEEM).

McDermott, R. (September, 2009). Presidential Illness. Yale Univeristy International Relations group. Bruce Russett.

McDermott, R. (September, 2009). Sex Differences in Aggression. For Women and Public Policy Program, Harvard University.

McDermott, R. (August, 2009). New Methodological Approaches to Ethnicity and National Identity, Panel Chair.

McDermott, R. (August, 2009). Neuroscientific Contributions to International Relations. American Political Science Association Meeting, Toronto, Canada

Hatemi, P. & McDermott, R. (August, 2009). The Relationship Between Political Preferences, Fear, Trust, and Psychopathologies. American Political Science Association Meeting, Toronto, Canada

McDermott, R. Biology, Genetics and Politics. (August, 2009) American Political Science Association Meeting, Toronto, Canada, Panel Chair.

McDermott, R. (July, 2009). Presidential Leadership, Illness and Decision Making. Summer Institute on Political Psychology. Stanford University

McDermott, R. (July, 2009). Sex Differences in Aggression in a Simulated War Game. Summer Institute on Political Psychology. Stanford University.

Hatemi, Peter K. & McDermott, R. (July 2009) Fear and Political Preferences. International Society of Political Psychology, Dublin, Ireland.

McDermott, R. (May, 2009). External and Internal Validity. Panel. Experimental Political Science Conference, Northwestern University. James Druckman.

McDermott, R. (May, 2009). Discussant on panel on experimental methods. Conference on experimental methods, UCSD.

Hatemi, Peter K. & McDermott, R. (April, 2009) Politics of Fear. Midwest Political Science Association Conference, Chicago, IL. Paper nominated for the Kellogg/Notre Dame Best Paper in comparative politicsAward.

Horowitz, M., McDermott, R. & Stam, A. (April 2009). Do Leader Backgrounds Matter? The Relationship Between Military Service, Education, and International Conflict. Midwest Political Science Association Conference, Chicago, IL

McDermott, R. (March, 2009). Experimental Methods. Graduate seminar at Vanderbilt University, Cindy Kam.

McDermott, R. (March, 2009). Polygny and Violence Against Women. Center for Advanced Study in the Behavioral Sciences, Stanford University.

McDermott, R. (March, 2009). Sex Differences in Aggression. Institute of International Studies, University of California, Berkeley.

McDermott, R. (March, 2009). Workshop on Experimental Study of Conflict. University of California, Davis.

McDermott, R. (February, 2009). Conference Organizer, Endogenous Influences on Political Attitudes and Behavior. Sage Center for the Study of the Mind, University of California, Santa Barbara.

McDermott, R. & Hatemi, P. (February, 2009). (R) evolutionizing Political Science. Comparative Politics Colloquium, University of California, Berkeley.

McDermott, R. (February, 2009). Methods of Homeland Security. Stanford University Undergraduate Course 112.

McDermott, R. (November, 2008). Presidential Leadership, Illness and Decision Making. Center for International Security and Arms Control, Stanford University.

McDermott, R. (November, 2008). Sex Differences in Hostile Communications in a Crisis Simulation Game. Political Psychology Behavior Group, Communications Department, Stanford University.

McDermott, R. (July, 2008). Presidential Leadership, Illness and Decision Making. Summer Institute on Political Psychology. Stanford University

McDermott, R. (July, 2008). Sex Differences in Aggression in a Simulated War Game. Summer Institute on Political Psychology. Stanford University.

McDermott, R. (May, 2008). MAO and Aggression. UC Riverside Conference on Experimental Methods in Political Science. Riverside, CA.

McDermott, R. (March, 2008). Chair and Organizer, Roundtable on Evolutionary and Neuroscientific Approaches to the Sources of Conflict. International Studies Association, San Francisco, CA

McDermott, R. (March, 2008). Chair and Organizer, Roundtable on Multiple Perspectives on Feminist Security Studies. International Studies Association, San Francisco, CA.

McDermott, R (March, 2008). Participant, Panel on "Levels of Analysis in Foreign Policy: Past, Present and Future." International Studies Association, San Francisco, CA.

McDermott, R. (March, 2008). Participant. Foreign Policy Association Distinguished Scholar Panel in Honor of Bruce Bueno de Mesquita. International Studies Association, San Francisco, CA.

McDermott, R. (March, 2008). Moderator, Panel on "Genes, Brains and Core Political Orientations." Southwestern Political Science Association Meeting, Las Vegas, NV.

McDermott, R. (March, 2008). MAOa and Public Opinion. NSF Conference on Biology and Politics, University of Illinois at Champagne-Urbana.

McDermott, R. (February, 2008). Sex Differences in an Experimental Crisis Game. University of California, Davis.

McDermott, R. (February, 2008). Political Manipulation of Emotion. Conference on Manipulating Democracy. Loyola Marymount University.

McDermott, R. (January, 2008). The Use of Deception in a Simulated Crisis Game. Politics, Psychology and Ethics public forum. The Interdisciplinary Center for the Scientific Study of Ethics and Morality, University of California, Irvine.

McDermott, R. (January, 2008). Presentation on Experiments to the Introduction to Qualitative Research Methods Seminar. Phoenix, AZ.

McDermott, R. (August, 2007). Pastorialim, Polygyny and Violence Against Women. American Political Science Association, Chicago, IL.

McDermott, R. (August, 2007) . Chair, Panel on "Competing Psychological Perspectives on Political Behavior." American Political Science Association, Chicago, IL.

McDermott, R. (August, 2007) . Discussant, Theme Panel: Politics and the Brain: New Approaches from Neuroscience. American Political Science Association, Chicago, IL.

McDermott, R. (August, 2007) . Discussant, Theme Panel: Borrowing from Behavioral

Economics and Political Psychology. American Political Science Association, Chicago, IL.

McDermott, R. (January, 2007). Presentation on Experiments to the Introduction to Qualitative Research Methods Seminar. Phoenix, AZ.

McDermott, R. (August, 2006). Chair, Panel on "Genetic and Evolutionary Basis of Political Behavior." American Political Science Association Annual Meeting, Philadelphia, PA

McDermott, R. (August, 2006). Chair and Discussant, Panel on "Examples of Multi-Method Research." American Political Science Association Annual Meeting, Philadelphia, PA.

McDermott, R. (August, 2006). Organizer and Moderator, Short Course "What Neuroscience has to offer Political Science." American Political Science Association Annual Meeting, Philadelphia, PA.

McDermott, R. (April, 2006). Sick and Tired: The Impact of Medical Illness on Foreign Policy Decision Making. SUNY Stonybrook.

McDermott, R. (April, 2006). Discussant on paper on terrorism. Political Psychology and Behavior Workshop. Harvard University.

McDermott, R. (March, 2006). Sick and Tired: The Impact of Medical Illness on Foreign Policy Decision Making. California Institute of Technology.

McDermott, R. (February, 2006). President's Day Address: Carter Administration Policy toward the Shah of Iran. Northeastern University.

McDermott, R. (February, 2006). Cognitive Neuroscience and Politics: Next Steps. Political Psychology and Behavior Workshop, Harvard University.

McDermott, R. (January, 2006). Presentation on Experiments to the Introduction to Qualitative Research Methods Seminar. Phoenix, AZ.

McDermott, R. (September, 2005). Public lecture on terrorism at the Oxnard Public Library, Oxnard, CA.

McDermott, R. (September, 2005). Roundtable participant in "Political Psychology: The State of the Discipline" American Political Science Association Annual Meeting, Washington, D.C.

McDermott, R. (June, 2005). Public address on terrorism to the Carpinteria Valley Rotary Club. Carpinteria, CA.

McDermott, R. (May, 2005). Sex Differences in a Simulated Crisis Game. Conference on

Evolution, Mind and Behavior, University of Santa Barbara, CA.

McDermott, R. (February, 2005). The Meaning of Neuroscience Advancements for Political Science. Brigham Young University, Provo, UT.

McDermott, R. (February, 2005). Sex Differences in Aggression in Simulated Crisis Games. Brigham Young University, Provo, UT.

McDermott, R. (February, 2005). The Politics of Terror and the Psychology of Fear. International Relations Seminar Series, Dartmouth College, Hanover, NH.

McDermott, R. (January, 2005). Presentation on Experiments to the Introduction to Qualitative Research Methods Seminar. Phoenix, AZ.

McDermott, R. (December, 2004). Psychological Approaches to Identity: Definitions, Measurement and Experimentation. Harvard Identity Project Conference, Cambridge, MA.

McDermott, R. (November, 2004). Talk on the impact of the elections on American Foreign Policy and Q & A. For adult education class at Santa Barbara Community College. Bayard Stockton, moderator.

McDermott, R. (October, 2004). Lecture on The Politics of Terror and the Psychology of Fear. Ventura College International Studies Lecture Series. Farzeen Nasri, moderator.

McDermott, R. (September, 2004). Addicted to Power: The Impact of Medical and Psychological Illness in John F. Kennedy's Presidency. American Political Science Association Annual Meeting, Chicago, IL.

McDermott, R. (September, 2004). Hostile Communications in a Simulated Crisis Game. American Political Science Association Annual Meeting, Chicago, IL.

McDermott, R. (September, 2004). Co-Leader of Short Course on Teaching Political Psychology. American Political Science Association Meeting, Chicago, IL.

McDermott, R. (July, 2004). Discussant on Panel, "Public Reactions to Terror" International Society of Political Psychology Annual Meeting, Lund Sweden, July 16-18, 2004.

McDermott, R. (July, 2004). Panelist on Roundtable on Mentoring. International Society of Political Psychology Annual Meeting, Lund, Sweden, July 16-18, 2004.

McDermott, R. (July, 2004). Presenter for Short Course for Junior Scholars on Publishing in Political Psychology. International Society of Political Psychology Annual Meeting, Lund, Sweden, July 16-18, 2004.

McDermott, R. (November, 2003). Talk on the impact of the elections on American Foreign

Policy and Q & A. For adult education class at Santa Barbara Community College. Bayard Stockton, moderator.

McDermott, R. (October, 2003). Lecture on The Politics of Terror and the Psychology of Fear. Ventura College International Studies Lecture Series. Farzeen Nasri, moderator.

McDermott, R. (August, 2003). Moderator and Participant on Panel on the Use of Experiments in Political Science. American Political Science Association Conference. Philadelphia, PA.

McDermott, R. (April, 2003). Sick and Tired: Impact of Medical and Psychological Illness on Foreign Policy Decision Making. For UCSB alumni group.

McDermott, R. (April, 2003). Moderator and discussant on Panel on Rationality and Crisis Decision Making. Midwest Political Science Association, Chicago, IL.

McDermott, R. (March, 2003). Sick and Tired: Impact of Medical and Psychological Illness on Foreign Policy Decision Making. Political Psychology and Behavior Workshop, Harvard University.

McDermott, R. (January, 2003). Talk and Q & A on American Foreign Policy. For adult education course at Santa Barbara Community College, Bayard Stockton, moderator.

McDermott, R. (August, 2002). Prospect Theory in Political Science: Gains and Losses from the First Decade. American Political Science Association Annual Meeting, Boston, MA.

McDermott, R. (May, 2002). The Impact of Uncertainty and Sex in a Crisis Simulation Game. Invited talk. Army War College, Carlisle, PA.

McDermott, R. (April, 2002). Women and Politics. Keynote Address to the President's Council of Cornell Women at Cornell University in Ithaca, NY.

McDermott, R. (March, 2002). Recent Advances in the Neurosciences and their Implications for Political Science. Presentation to the Political Psychology and Behavior Workshop at Harvard University.

McDermott, R. (March, 2002). Early Reagan Administration Arms Control Policy. Presentation to the Olin Seminar at Harvard University.

McDermott, R. (March, 2002). What Have We Learned from the First Ten Years of Prospect Theory in Political Science? Paper presentation and panel discussant and moderator at the International Studies Association Meeting, New Orleans, LA.

McDermott, R. (February, 2002). The Impact of Uncertainty and Sex in a Crisis Simulation Game. Presentation to the Department of Social and Decision Sciences, Carnegie Mellon University.

McDermott, R. (October, 2001). The Impact of Uncertainty and Sex in a Crisis Simulation Game. Presentation to the Belfer Center on International Security Policy, Kennedy School of Government, Harvard University.

McDermott, R. (October, 2001). American Foreign Policy and the War on Terrorism. Presentation to the Cornell Trustees Annual Meeting.

McDermott, R. (October, 2001). The Effect of Uncertainty and Sex in a Crisis Simulation Game. Presented to the International Relations Colloquium at the University of California, Berkeley.

McDermott, R. (October, 2001). Participation in Round Table on 9/11 for Peace Studies Program at Cornell.

McDermott, R. (September, 2001). American Foreign Policy and Terrorism. Participant in Cornell University-wide teach-in.

McDermott, R. (September, 2001). The Impact of Uncertainty and Sex in a Crisis Simulation Game. Panel presentation at the American Political Science Association meeting in San Francisco, CA.

McDermott, R., and J. Cowden. (September, 2001). Parity versus Superiority in Weapons Procurement Decisions: An Experimental Simulation. Paper Presentation to the American Political Science Association Meeting in San Francisco, CA.

McDermott, R., and J. Cowden. (December, 2000). The Effects of Uncertainty and Sex in a Crisis Simulation Game. Political Psychology and Behavior Workshop, Harvard University.

Koopman, C., R. McDermott, and J. Cowden. (July, 2000). Parity versus Superiority in Weapons Procurement Decisions: An Experimental Simulation. Paper presented at the International Society of Political Psychology, Seattle, WA.

McDermott, R. (May, 2000). Sex and Death: An Experimental Demonstration of the Impact of Gender and Uncertainty on Arms Races. Presentation to the John M. Olin Seminar for Strategic Studies at Harvard University.

McDermott, R., and J. Cowden. (February, 2000). Sex and Death: An Experimental Demonstration of the Impact of Gender and Uncertainty on Arms Races. Presentation at Princeton University.

McDermott, R. and J. Cowden. (October, 1999). Sex and Death: An Experimental Demonstration of the Impact of Gender and Uncertainty on Arms Races. Presentation to the faculty seminar on Political Psychology at Columbia University, administered by Robert Shapiro.

McDermott, R. (October, 1999). Prospect Theory and American Foreign Policy. Invited talk given to the social psychology faculty and graduate students at the University of Connecticut, Storrs, administered by Felicia Pratto.

McDermott, R., and J. Cowden. (September, 1999). Sex and Death: An Experimental Demonstration of the Impact of Gender and Uncertainty on Arms Races. Paper presented at the American Political Science Association Conference, Atlanta, GA.

Cowden, J., and R. McDermott. (September, 1999). An Experimental Demonstration of the Lability of Political Party Identification. Paper presented at the American Political Science Association Conference, Atlanta, GA.

McDermott, R., and B. Bueno de Mesquita. (June, 1999). The Expected Prospects for Peace in Northern Ireland: Comparing Expected Utility and Prospect Theory Models in Predicting the Outcome of the Good Friday Agreements. Paper presentation on the Conference on Collective Decision Making Processes sponsored by Frans Stokman, Groningen, Netherlands.

McDermott, R. (June, 1997). Hepatitis B in Injection Heroin Users: A Follow-Up. Poster Presentation at the College on Problems of Drug Dependence, Nashville, Tennessee.

McDermott. R. (June, 1996). Hepatitis B in Injection Heroin Users. Oral Presentation at the College on Problems of Drug Dependence, San Juan, Puerto Rico.

McDermott, R. (August, 1995). Prospect Theory in International Relations: Gains or Losses? Paper presented to the American Political Science Association, Chicago, IL.

McDermott, R. (August, 1995). The U.S. Decision to Launch Operation Desert Storm, January, 1991: A Prospect Theory Analysis. Paper presented to the American Political Science Association, Chicago, IL.

McDermott, R. (July, 1990). Prospect Theory in the Iranian Hostage Rescue Mission. Paper given to the International Society of Political Psychology, Washington, DC.

SERVICE:

2010-2011 Chair, Division 5 (Political Psychology) Organized Section

2009-present Co-Editor, Book Series on Leadership, Decisionmaking and International Relations, University of Chicago Press

2009-present Series Editorial Board, Book Series on Strategies of Social Inquiry. Editors: John Gerring, Colin Elman, Jim Mahoney. Cambridge University Press.

2009-present Editorial Board, *International Studies Quarterly*
Journal of Conflict Resolution (Experimental Editor)

Foreign Policy Analysis

2008-2009	APSA Council, Administrative Committee (Appointed)
2008-2010	APSA Council (Elected)
2007-2009	Chair, Publications Committee, International Society of Political Psychology
2008	Chair, Lasswell-Sanford Award Committee, International Society of Political Psychology
2007-2010	APSA Publications Committee
2007-2010	Grants Workshop Committee, International Studies Association
2007-2009	Member-at-Large, Qualitative Methods Section, American Political Science Association (Elected)
2007	Section Chair, Conflict, International Society of Political Psychology Annual Meeting, Portland, OR.
2006-2009	Vice President, International Society of Political Psychology (Elected).
2006	Erik Erikson Committee, International Society of Political Psychology
2006	Nominating Committee, Qualitative Methods section, American Political Science Association
2006	Division 5 Chair, Political Psychology, American Political Science Association Annual Meeting, Philadelphia, PA.
2005-current	Instructor, Center for Qualitative Research Methods, Arizona State University
2005	Section Chair, IR, International Society of Political Psychology Annual Meeting, Toronto, Canada
2004	Section Chair, IR, International Society of Political Psychology Annual Meeting, Lund, Sweden
2004	Nominating Committee, International Society of Political Psychology
2003-current	Editorial Board, *Political Psychology*
2001-2004	Governing Council, International Society for Political Psychology (Elected)
2001-2004	Grants Workshop Committee Member, International Studies Association

1996-current Reviewer for: *International Organization*
Journal of Politics
International Studies Quarterly
Journal of Conflict Resolution
Political Psychology
Political Behavior
American Political Science Review
World Politics
Perspectives on Politics
International Studies Review
Political Research Quarterly
Journal of Theoretical Politics
International Security
Foreign Policy Analysis
Journal of Peace Research
Public Opinion Quarterly
SUNY Press
BCSIA Press
Princeton University Press
Cambridge University Press
Columbia University Press
Routledge Press
University of Michigan Press
Harvard University Press
Johns Hopkins University Press
Stanford University Press
Rowan & Littlefield Press
Cambridge University Fellowships
National Science Foundation (Multiple)

PROFESSIONAL MEMBERSHIPS:

American Political Science Association
International Society of Political Psychology
International Studies Association

REFERENCES:

Professor Robert Jervis
Institute on War and Peace Studies
Columbia University
New York, NY 10027

Professor Bruce Bueno de Mesquita
Hoover Institution
Stanford, CA 94305

Professor Peter Katzenstein
White Hall, Department of Government
Cornell University
Ithaca, NY 14850

Professor Philip Zimbardo
Department of Psychology
Stanford University
Stanford, CA 94305

Richard Wrangham
Department of Biological Anthropology
Peabody Museum
Harvard University
Cambridge, MA 02138

Professor Philip Tetlock
Haas School of Business
UC Berkeley
Berkeley, CA 94720-1900