Liberation and Economic Marginalization: A Reformulation and Test of (Formerly?) Competing Models

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Abstract:

This study reconceptualizes and tests liberation and economic marginality hypotheses as complementary explanations for female offending patterns. Both explanations are relevant in explaining female crime, but need to be reframed as interacting forces not opposing theories. It is suggested that economic marginality is in part a consequence of liberation, where the expectation of women's independence may not be consistent with their actual social circumstances. This study also assesses the explanatory power of this model for both male and female conviction rates. Results from a pooled time series, least squares with dummy variables, cross-national analysis supports this reformulated model. Although this model is a good predictor of female conviction rates, it does not appear to be good a predictor of male conviction rates. Female conviction rates are significantly affected by male employment status, indicating that social conditions that are linked to female crime are a function of the economic and social position of both sexes.

Keywords: liberation | crime | crime rate | gender | economic marginalization | conviction rates | cross-national crime | gender differences in offending | gender specific theory

Article:

In 1979, Giordano and Cernkovich challenged the then popular liberation hypothesis, claiming that the relationship between liberation and crime was oversimplified. Researchers have previously tried to find a direct link between liberation and crime, hypothesizing that liberation "causes" crime. Attempts to find this direct relationship have been largely fruitless. Consequently, the liberation thesis has been abandoned for more empirically sound theories, such as the economic marginality hypothesis. These two hypotheses have become competing explanations, with the empirical results generally favoring economic marginality.

The argument presented in this article is that liberation should not be abandoned in favor of economic marginality, but rather, that these two theories should be integrated. It is not unreasonable to think that the changing social position of women has had some affect on crime. If this relationship does exist, it is likely indirect and multidimensional. Finding the exact influence of changing gender roles has proved to be difficult. Although it is plausible that the *indirect* effects of liberation influence crime, and that the *direct* effects of economic marginality influence crime, the relationship between liberation and economic marginality is complex. One cannot simply assert that women begin to commit more crime as a result of liberated social positions and/or attitudes. It is also unreasonable to assume that women's economically marginal circumstances have been unaffected by women's changing roles.

It is very likely that social structural and ideological changes brought about by the women's movement may have contributed to the increase in these economically "marginal" roles. Therefore, a consideration of economic marginality must be analyzed within a social context, particularly with regard to the changing social positions of women. This includes acknowledgement of how the shift from traditional to liberated ideology has changed women's roles, and the structural and economic consequences of such change.

The goals of this article are twofold. (a) To reconceptualize economic marginality and liberation as complementary explanations. (b) To understand changes in female and male crime with regard to these two hypotheses.

ECONOMIC MARGINALIZATION AND LIBERATION

Female crime can be characterized as fundamentally economic in nature. Women who offend commit predominately nonviolent property offenses, petty theft, fraud, shoplifting, bad checks, and embezzlement (Bureau of Justice Statistics, 1999; Chesney-Lind, 1997; Steffensmeier, 1993; Steffensmeier & Haynie, 2000).[1] Although rates of female crime are small in comparison to the rates of male offenses, trends over the past three decades show that women's share of economic crime has steadily increased, despite the recent downward trend for crime as a whole (Federal Bureau of Investigation, 2001). Over the past three decades, crime rates and poverty among women have increased in tandem (Federal Bureau of Investigation, 2001; McLanahan, Sorensen, & Watson, 1989; U.S. Bureau of Census, Current Population reports, 1994, 1998, 2001). Ethnographic evidence reveals that much of women's crime is related to economic need (Gilfus, 1992; Miller, 1986; Zietz, 1981), which may be a consequence of women's economic position in society (McLanahan et al., 1989). Women are at a particular risk of being poor due to their concentration in low paying jobs, the rise in female- headed households, and divorce (Zopf, 1989). Given these conditions, it seems logical to suggest a causal relationship between deteriorating economic circumstances and crime among women.

There is general agreement among scholars that the economic marginality of women is closely linked to female crime (Box & Hale, 1984; Chapman, 1980). The idea that there is a link between female poverty and crime is called the economic marginality hypothesis, which is one of the most pervasive explanations for female crime (Simon & Landis, 1991). The economic marginality hypothesis proposes that as women are denied access to economic resources, they are relegated to the economic periphery of society where monetary disadvantages are associated

with higher crime rates. This "margin" is closely associated with women's social roles. Indicators associated with marginality are being single, being a female household head, caring for dependent children, being of minority status, having children born out of wedlock, and experiencing divorce. Economic hardships such as unemployment, low wages when employed, reduced welfare payments, or inadequate welfare payments often accompany these social positions.

The relatively small body of research in this area tends to support the notion that female crime is related to poverty (Box & Hale, 1983; Chapman, 1980; Miller, 1986; Steffensmeier, Allan, & Streifel, 1989). Official statistics reveal that typical female offenders are lower-class women who tend to commit "traditionally female" crimes, petty economic crimes, and drug offenses, are disproportionately of minority status, and are also disproportionately single heads of households caring for dependent children (Chesney-Lind, 1997; Gilfus, 1992; Snell & Morton, 1994; Steffensmeier & Haynie, 2000).

Many early empirical tests of economic marginality pit the economic marginality hypothesis against the liberation hypothesis, looking for evidence to support one over the other (Box & Hale, 1983, 1984; Hartnagel, 1982; Hartnagel & Mizanuddin, 1986). The liberation hypothesis indicates that gains in female's social structural positions will increase their official crime rates, whereas the economic marginality hypothesis suggests that declines in female's status, especially their economic status, will lead to an increase in their official rates. Indeed, economic marginality and the liberation hypothesis are seen as opposing, rival hypotheses.

Adler (1975) attempted to make sense out of the rise in female crime between the 1960s and early 1970s. She purported that as women break through domestic boundaries and move into a competitive, aggressive male world, they begin to take on masculine qualities. She argued that this held true in the criminal world, where women's offending was becoming increasingly more violent. Simon (1975) did not agree that liberation caused women or their offending behavior to take on masculine qualities. Instead she suggested that as women entered the workforce in greater numbers, their criminal opportunities increased, especially the opportunity to commit work related crime. These two theories laid the foundation for the liberation thesis.

In the years following Adler (1975) and Simon's (1975) work, several studies have shown the hypothesis to be empirically flawed. This is primarily due to the characteristics of female offenders. Women who commit the bulk of crime cannot be reasonably characterized as liberated and independent. Instead, they are poor, working-class women who have always worked outside of the home (Radosh, 1990).

Some empirical support for the liberation hypothesis materialized in 1982 when Roy Austin examined the effect of female liberation on female offending. Austin did find an association between liberation and female crime through visual inspection of graph trend lines. A study similar to Austin's research (Fox & Hartnagel, 1979) explored the relationship between female crime rates in Canada and women's changing social roles. Their hypothesis, not unlike the liberation hypothesis, was that as more women occupy extra familial roles, more crime will result. Like Austin, they found some statistical support for the hypothesis, which suggests that liberation may indeed be an influencing factor.

The problem with much of the liberation research is that the independent variables that are typically used can be ambiguous, leading to a possible misinterpretation of the true status of women in society. For example, increased female labor force participation is often used as an indicator of liberation. This variable does not necessarily indicate greater liberation among women, because all possible types of occupations are subsumed under this one category. Since World War II, the majority of increases in female labor force participation have been in low-wage sectors—semiskilled, service jobs—positions that are considered traditionally female (Chesney-Lind, 1997; Howe, 1977). Thus, female labor force participation as a category does not necessarily represent economic emancipation. Indeed, women entering the work force may be doing so out of economic necessity, not a liberated calling.

Divorce is another variable frequently used in liberation models. Divorce would appear to be a liberating act for women, ostensibly freeing them from dependence on males. In actuality, women often suffer significant financial hardships after divorce. Indeed, the poorest population of women tends to be single heads of a household with children (U.S. Census Bureau, 2001).

These common "liberation" variables may represent liberation among women, but very likely only in the ideological sense. It is important not to equate liberation with prosperity, and indicators of liberation should simultaneously consider specific, categorical economic positions of women.

Analysis of the liberation hypothesis segued into studies that confronted contradicting explanations for women's crime. Such studies identified economic marginality as an alternative cause of increased crime rates among females. Steffensmeier and Streifel (1992) conducted one study that confronted the problem of measuring liberation versus economic marginalization. The results showed very little support for the liberation hypothesis and some support for the economic marginalization hypothesis.

Box and Hale (1984) tested the liberation hypothesis on female crime rates from 1951 to 1980 in England and Wales. Their analysis did not reveal a significant empirical relationship between indicators of liberation and female crime. Upon further analysis, however, they found some support for the counter argument: "deteriorating economic conditions, especially unemployment, are causally related to female crime" (Box & Hale, 1984: 43). In light of these findings, it is necessary to examine closely the relation between the socioeconomic position of women and changes in female crime rates.

Researchers have explored liberation and economic marginalization in international studies where the level of country development is used as an indicator of the social and economic status of women. Widom and Stewart (1986) determined that modernization was positively associated with higher levels of female arrest rates, which lends some support to the liberation hypothesis. As with so many measures of liberation, it is difficult to determine a precise influence. On one hand, the level of country development may indicate greater economic prosperity and opportunity for women, improving the status of women overall. One the other hand, increasing county-wide development may actually further marginalize some women. Development is associated with changes in the family structure, which often results in divorce, working women

with excess domestic responsibilities, and female headed households. These particular characteristics, under the guise of "liberation," are associated with women's low-economic status (Steffensmeier et al., 1989).

These studies cover a wide range of social and economic factors with mixed results, suggesting several conclusions. The liberation argument rather ironically suggests that as women begin to experience more favorable social and economic positions, they begin to engage in more crime. First, it is not clear whether female liberation contributes to an increase in female crime. If there is a relationship between liberation and female crime, little is known about it. Much of this can be attributed to the fact that the changing social status of women is difficult to define and measure. Second, there seems to be moderate support for economic marginality as a causal factor in women's crime, which requires further testing of the hypothesis. The implication here is that women's crime cannot wholly be explained by their economic marginality. Rather, it appears that women's economic positions are connected to other social forces.

Given the moderate support for both the influence of female economic marginality and liberation on crime rates, it would be premature to dismiss these hypotheses, particularly given the less than ideal measures used in the previous tests. Furthermore, liberation and economic marginalization have been cast as competing hypotheses. It is important to consider their compatibility, or how these two explanations work together to explain female crime.

THE CURRENT THEORETICAL MODEL

It is reasonable to assume that all women are affected by changing social norms and attitudes toward women. Liberation might bring rewards for those women who achieve professional and monetary success, but quite possibly has negative consequences for women who remain in traditional female roles. This theoretical model proposes that there is a disjunction between ideology and material reality, where liberation is the prevailing ideology and economic marginality is the prevailing material reality. Consequently, liberation and economic marginalization are likely interacting forces. Despite the women's movement and increasing opportunities for women, women's economic position has worsened over the past few decades. It is possible that contemporary gender ideology does not reflect current structural conditions. Furthermore, a liberated ideology might eclipse material reality, rendering women's circumstances invisible. In this case, women's economic situations may worsen to the extent that they remain unacknowledged. Another way that liberation might interact with economic marginality is in the ways that liberated attitudes have shaped women's roles and the structural and economic consequences of such shifts. For example, women may be expected to be liberated and independent, but are still dependent on men for economic support. Changes in the family and employment are linked to liberated ideologies but have possible negative material consequences for women. Higher divorce rates are in part a consequence of liberation, yet women are more economically vulnerable after divorce (Smock, Manning, & Gupta, 1999). A corollary of this may be that liberation leads to increased expectations for status and income among women. To achieve such expectations, women who lack legitimate opportunities might be inclined to commit crime in order to take what is expected.

Part of operationalizing this theory involves acknowledging the economic and social positions of men. This theory will not likely predict both male and female crime, yet it must consider both similarities and differences in male and female social positions to explain female crime. There are many reasons that male and female indicators should be used in theoretical models. The key reason is that gender relations contribute to the economic and social position of both males and females. For example, women's economic marginality may be tied to men's earning capacity.

There is another, general theoretical interest for including males in this model. One of the big, looming questions for researchers in gender and crime is whether theories of crime should be gender neutral or gender specific. Most mainstream theories of crime are constructed to explain male behavior, whereas some attempts have been made to explain deviance and crime with gender-neutral theories (Deschenes & Esbensen, 1999; Harris, 1977; Smith & Paternoster, 1987). Most feminists, however, insist that such "gender neutral" explanations are inherently biased, where circumstances unique to women are overlooked or distorted (Daly & Chesney-Lind, 1988; Klien, 1973; Naffine, 1987; Scraton, 1990; Smart, 1990). As a result, explanations of female crime that are specific to females have emerged. Both the liberation hypothesis and the economic marginalization hypothesis are examples of gender-specific theories, explicitly constructed to explain female crime.

Just as general research on crime has historically excluded the influence of gender, the studies examining gender and crime have focused exclusively on women, with little or no attention given to men. Little is known about social influences that might similarly affect rates of male and female offending. Even less is known about such relationships at the aggregate level (Steffensmeier & Haynie, 1999).

A few studies have considered the possibility that certain structural factors influence female and male crime rates similarly. Steffensmeier and Haynie (1999) found that higher rates of structural disadvantage were associated with higher rates of female offending, but that these structural forces also influenced male rates of offending. Boritch and Hagan (1990) conducted a comparable study examining similarities in female and male offending patterns over time. They examined crime data from the city of Toronto, over the time period, 1859 to 1955. By inspecting graphs, they found uniformity in the change of male and female crime rates. Although males committed a greater share of crime, the rates of males and females would rise and fall together. They concluded that female and male crime trends are similar.

These studies suggest that there is some overlap between the factors that influence male and female rates of offending. This seems particularly important given the consistency with which male crime rates can predict female crime rates (Steffensmeier & Broidy, 1999). It can be inferred from these studies that there may be certain macro structural forces that are specific to both males and females, although such forces may influence female and male crime rates differently.

Given the literature that suggests that general structural and economic forces affect males and females similarly, it is empirically relevant to test this model on both male and female conviction rates. This study seeks to determine if conditions of economic marginality and liberation, which are unique to females, also affect male crime, and if the inclusion of variables specific to the social and economic position of males help to explain female crime. The justifications for the

inclusion of males in this analysis are as follows: (a) It is possible that female and male crime rates change in unison, and that macro economic forces that influence the offending rates of one sex might affect the other sex. Thus, it is empirically relevant to test whether the current theoretical model can predict both male and female conviction rates. (b) The economic and social position of males and females are interacting forces. Conditions unique to females and males do not occur in a gender vacuum but rather are relational, dynamic forces that create reciprocal effects. One example of such an interaction is the case of economic marginality. Women are often economically dependent upon men, but males are generally not economically dependent upon females. Consequently, the economic position of males may have an effect on the crime rate of females, but the reverse in unlikely.

Women's liberation is also shaped by the various social positions held by men. Gender equality is something that is constantly negotiated by multiple social forces, including such institutions as the sexual division of labor, as well as the resources, positions, and power held by men. In sum, although the relationship between various sociological variables and crime may be gender specific, the inclusion of both female and male specific variables in this model may help better explain female and male conviction rates.

The regression analyses that follows address the following hypotheses:

Hypothesis 1 (hereafter H1): female and male economic marginality and female liberation will be positively associated with conviction rates.

Hypothesis 2 (hereafter H2): General economic conditions will influence both male and female conviction rates similarly.

Hypothesis 3 (hereafter H3): Female and male economic marginality and female liberation will influence male and female conviction rates differently.

H3a: The economic position of males will have a stronger influence on female conviction rates than will the economic position of females have on male conviction rates.

THE SAMPLE

The analysis pools data from 10 countries, where the dependent variable is the national adult conviction rate,[2] by gender, per 100,000.[3] The independent variables are a variety of general and sex-specific social and economic characteristics for each nation, which are also measured by gender. Each independent variable is selected based on a review of the literature. The 10 countries in the sample are as follows: Austria, Denmark, Hungary, Greece, Panama, Portugal, Italy, Chile, Sweden, United Kingdom,[4] and the United States. These countries are not representative of the rest of the world, and the explanations derived from this analysis extend only to these 10 countries. Conviction rates are used for each available nation-year covering the 20-year time period, 1975 to 1994.

One of the methodological problems with comparing conviction rates across gender is that women and men are convicted of different types of crimes. Because all types of crime are

potentially subsumed under this one indicator, it is impossible to analyze specific crime trends.[5] Therefore, the seriousness of certain crimes is not apparent with this variable. For example, if overall rates are increasing, just one or two particular crimes could be dominating the upward trend.

Because women predominately commit property crimes, with a negligible share of violent crimes, it can be assumed that the measure of female conviction rates is a near reflector of women's share of economic convictions. Male conviction rates, on the other hand, account for a greater proportion of violent crimes, and it cannot be assumed that the total male conviction rates reflect any particular crime category. Tests of this hypothesis upon *particular* crime categories are recommended for further research.

Conviction rates are used in this analysis because they represent the most comprehensive and reliable indicator in the United Nations World Surveys on Crime Trends. Although conviction rates are a suitable measure of crime for this analysis, this variable does have some limitations. Part of the change in conviction rates necessarily involves changes in criminal justice policy, changes in citizen and police reporting habits (Nettler, 1973), and it is unlikely conviction rates are representative of the total criminal population (Sohoni, 1994). Also, people drop out of the criminal justice system for a variety of bureaucratic and legal reasons as they move further through the legal process. The rate of conviction, therefore, does not capture the number of offenders at their earliest contact with the criminal justice system. Conviction rates are, however, a conservative estimate of crime, because numbers tend to get smaller at each successive stage of criminal justice system processing. So arrest rates would be the largest category, with this number decreasing with prosecution and then conviction. A positive consequence of using conviction rates is that it is safer to underestimate the crime problem than to overestimate it. In addition, because quite a bit of time passes between the criminal event and conviction, using conviction rates in this analysis factors in a lag time, which is desirable and appropriate for time series analysis.

INDEPENDENT VARIABLES

The independent variables are divided into three distinct categories: general indicators, measures of female economic and social positions, and measures of male economic and social positions. General indicators are structural variables that are gender neutral (i.e., they are forces that are expected to affect males and females similarly). Measures of female economic positions are economic indicators that are specific to females. The following variables were determined to be the best predictors for this model.

Indicators of General Economic Conditions

Wages and salaries captures the changes overall in wages for both men and women. A decline in wages and salaries would represent declines in overall income.

Social security tax measures the percentage of the total current revenue derived from social security taxes. There are a few possible interpretations of this variable. Higher rates of social security taxes should coincide with higher rates of employment, as those who are employed

typically pay social security taxes. Moreover, increasing social security taxes represent greater social amelioration, and a greater national commitment toward supporting populations who are not economically active (i.e., women, children, and the elderly).

Indicators of Female Liberation

The percentage of females in tertiary education is a control variable included to account for the overall status of women. This variable measures female pupils as a percentage of total pupils at the tertiary level.

Female employees in industry is the percentage of the economically active female population who work in the industrial sector.

Divorce measures the number of divorces per 100,000 married persons.

Age dependency ratio is calculated as the ratio of dependents to the working age population.

Public spending on education is added to control for the effects that education may have on crime. This variable is measured by the percentage of gross national product (GNP) accounted for by public spending on public education.

Indicators of Female's Economic Position

Female labor force participation represents working females as a percentage of the total labor force population, which shows the extent to which women are active in the labor force.

Female unemployment is the share of the female labor force that is without work but available for and seeking employment.

Female employees in services is the percentage of the economically active female labor force working in the service sector.

General government consumption represents a variable that includes services that benefit women. General government consumption includes all expenditures made by all levels of government.

Indicators of Male's Economic and Social Position

Male employees in services is the percentage of the economically active male labor force working in the service sector.

Male employees in industry is the percentage of the economically active male population who work in industry sector.

Male unemployment is the share of the male labor force that is without work but available for and seeking employment.

Control Variables

Gross domestic product (GDP) is a per capita measure that controls for overall economic conditions.

Urban population represents the percentage of the population living in urban areas, controlling for the association between crime rates and urbanization.

THE CASE FOR CROSS-NATIONAL RESEARCH

Cross-national research is advantageous in several ways. First, this type of research permits a general verification of findings in such a way that the researcher can be confident that the findings are not particular to a given country. Second, it is useful for developing social theory (Kohn, 1989). Third, although the research that has been done on crime in the United States is informative, without cross-national evidence, there is no way of knowing whether such results are particular to the United States, or if they apply to other countries.

Finally, the key reason why cross-national research is so important is the ability to assess the generality of theories. The use of cross-national research may help move the discipline toward a resolve of the age-old debate about whether a general theory of crime can apply to a number of unlike societies. There is not currently a theory general enough to account for crime at different places, times, and levels of analysis. If such a theory is to emerge, it would only after careful testing across multiple dimensions, including countries and time.

METHOD

In this study, time series data allowfor precise measures by demonstrating that the phenomenon in question is, or is not, occurring over time. Measurement over time reduces the possibility that atypical effects are being captured in the parameters. Because most research on crime is based on cross-sectional models, the possibility of measuring irregular effects is much stronger than with time series models. Time series are more reliable because the relationship between variables can be observed consistently over time, and outliers, or aberrations, can be identified. The pooled time series GLS regression technique used here captures the relationship between the variables across both time and space, where a number of different cross-sections are observed over the time period, 1975 to 1994.[6] The most general relationship between conviction rates and the predictors derived from the hypothesis can be expressed as

$$C_{gnt} = B_{go} + E_k B_{gk} X_{gknt} + U_{nt} \quad (1)$$

where C equals the conviction rate; g equals gender ($g = 1, 2$); k equals the number of explanatory variables ($1 \ldots\ldots K$); n equals number of nations ($1 \ldots\ldots N$); t equals the number of time points ($1 \ldots\ldots T$); B_{go} is the intercept for the g-th gender; B_{gk} is the regression coefficient for the g-th gender of the k-th variable; X_{kgnt} is the value of the k-th independent variable for the g-th gender, in the n-th nation, in the t-th year; U is a stochastic term.

Several features of this model are of interest. First, note that both the intercept and each regression coefficient can vary by gender. The varying intercept term allows for different overall levels of offending by gender. The varying coefficients allow the effects of any variable to differ by gender. The second feature is the inclusion of different nations and years and dummy variables for each category. Last, additional hypothesis tests are included to test whether effects are similar across sex. These hypotheses are evaluated with the use of F-tests, which test for cross-gendered effects.

Pooling of data provides the advantage of more data points (Sayrs, 1989). The least squares with dummy variables model (LSDV) is used to account for unobserved effects specific to each country, as well as covariation, or distribution of residual variance, between the cross sections and across time. The principle behind the LSDV technique is that structural change and unique effects not included in the model are captured by the dummy variables. Fixing the error term in the dummy variables takes into account collinearity of the explanatory variables and other errors. When potentially heterogeneous populations (or groups that could display different behavioral patterns) are combined into one sample, the error terms can be correlated with the set of explanatory variables. This results in biased parameter estimates, a violation of one of the regression assumptions (Hanushek & Jackson, 1977).

The regression procedure is run for both males and females. That is, conviction rates for both male and females are separately regressed on all of the explanatory variables. Thus, for the relationship between each explanatory variable and dependent variable, one slope is estimated for females and another is estimated for males. Each coefficient represents a relationship that is constant across space and time. These coefficients are then observed for similarities or differences between females and males. Because these data contain observations from different groups (male and female), the coefficients from these two populations will appear to differ. Because of sampling variability, F-tests are calculated to test whether observable differences are statistically significant across male and female populations.

The F-test is used to test hypotheses about more than one regression slope, where the null hypothesis is that coefficients are the same for both male and female populations (i.e., the effect of a group of variables is the same for both males and females). The alternate hypothesis is that the effect is truly different for both groups (H3).

TABLE 1: Summary Statistics of Male Conviction Rates, by Country, 1975-1994

Country	Number of Years	Mean Conviction Rate	SD	Minimum	Maximum	First Year	Last Year
Austria	15	2,021.84	240.51	1,699.81	2,360.41	1980	1994
Chile	20	950.32	512.88	310.28	2,142.51	1975	1994
Denmark	10	3,640.76	915.01	2,473.41	4,714.21	1981	1990
Greece	20	2,764.76	577.98	1,622.81	3,809.41	1975	1994
Italy	19	479.34	112.31	329.94	729.73	1976	1994
Panama	15	249.71	297.67	69.76	1,269.57	1980	1994
Portugal	9	536.95	112.25	435.81	745.38	1986	1994

Country							
Sweden	20	3,968.74	1,392.32	2,979.41	8,008.21	1975	1994
United States	20	6,925.22	3,313.86	439.92	10,101.31	1975	1994
United Kingdom	20	1,148.14	798.08	161.45	2,328.66	1975	1994

SOURCE: Conviction data are taken from the United Nations World Surveys on Crime Trends and Criminal Justice Systems, 1970-1994: Restructured Five-Wave Data, collected by Burnhan and Burnham (1997), ICPSR version. Adult conviction rates are those convictions per 100,000 males, age 15 years and older.

TABLE 2: Summary Statistics of Female Conviction Rates, by Country, 1975-1994

Country	Number of Years	Mean Conviction Rate	SD	Minimum	Maximum	First Year	Last Year
Austria	15	371.44	26.59	306.71	411.64	1980	1994
Chile	20	57.72	34.55	22.96	120.53	1975	1994
Denmark	10	549.35	77.94	447.41	672.64	1981	1990
Greece	20	270.14	27.85	216.01	320.35	1975	1994
Italy	19	72.09	21.81	50.24	129.91	1976	1994
Panama	15	18.75	23.78	4.81	101.76	1980	1994
Portugal	9	66.04	8.49	50.61	76.31	1986	1994
Sweden	20	611.27	166.81	501.11	1,038.21	1975	1994
United States	20	1,252.05	618.55	17.64	1,744.71	1975	1994
United Kingdom	20	158.68	114.62	24.51	321.81	1975	1994

SOURCE: Conviction data are taken from the United Nations World Surveys on Crime Trends and Criminal Justice Systems, 1970-1994: Restructured Five-Wave Data, collected by Burnhan and Burnham (1997), ICPSR version. Adult conviction rates are those convictions per 100,000 females, age 15 years and older.

The hypotheses are as follows:

H0: B(males) equals B(females) = same effect for males and females

H1: B(males) does not equal B(females) = different effect for males and females

DISCUSSION OF DESCRIPTIVE STATISTICS

Tables 1 and 2 show the summary statistics for each country's dependent variable for males and females. These nations vary greatly in conviction rates, implying substantial cross-national difference in the crime problem.[7] During the period 1975 to 1994, developed democracies are more likely to have higher conviction rates than are developing nations.[8] This pattern may reflect, to some extent, resources available for conviction. However, other cross-national studies have shown that crime, and homicide in particular, tends to be higher in developed countries

(Gartner, 1996). What is consistent in every country is that male conviction rates tend to be much higher than female conviction rates. Furthermore, in countries where male conviction rates are high, female conviction rates also tend to be high, relative to other countries in the sample. So, although there is a consistent gender gap in the mean conviction rate for each country, there also tends to be a consistent pattern showing that nations with high male mean conviction rates also have high female mean conviction rates.

RESULTS OF A MULTIVARIATE ANALYSIS

Overall, the model supports economic marginality and liberation as causal explanations for female conviction rates but not male for conviction rates. Economic and social conditions appear to affect the criminality of females differently than males. Conviction rates for females are significantly affected by the patterns of male employment and unemployment, although males are moderately influenced by employment patterns of females (see Table 3).

HYPOTHESIS 1

Results provide general support for H1: Indicators of both economic marginality and liberation will be related to female conviction rates. General government consumption, divorce, age-dependency ratio, female employees in industry, and female employees in service are all significantly related to female conviction rates.

Divorce and female employees in service are positively and significantly related to female conviction rates. It is difficult to tease out the influencing factors with divorce because it represents both a decline in traditional family values (i.e., liberation) and also signals economic marginality among women. Contrary to expectations, the variable female unemployment is not significantly related to female conviction rates, however, females employed in service is significant. Females employed in service is a primary indicator of economic marginality.

TABLE 3: Pooled Time Series Least Squares With Dummy Variables (LSDV), Generalized Least Squares Regression Results for Males and Females, 10 Nations, 1975-1994

	Regression Coefficients for Female Conviction Rates	**Regression Coefficients for Male Conviction Rates**
Indicators of female's economic position		
Female labor force participation (% of total)	29.531	–68.087
General government consumption	–89.778*	50.905
Female employees in service (% of economically active female population)	70.358***	4.008
Female unemployment (% of female labor force)	25.582	19.857
Indicators of male's economic position		
Male unemployment (% of	49.797*	0.389

male labor force)		
Male employees in industry (% of economically active male population)	–55.082	98.885**
Male employees in service (% of economically active male population)	–52.534**	27.196
Liberation indicators		
Female employees in industry (% of economically active female population)	153.162**	–94.822**
Female pupils in tertiary education (% of total)	3.631	2.932
Public spending on education (total % of current revenue)	–181.871*	–264.636***
Divorce (divorces per 100,000)	6.405**	11.397***
Age Dependency Ratio	–3,728.611*	–2,772.905
Gender neutral indicators		
Social security tax (% of current revenue)	24.166**	0.774
Wages and salaries (% of total expenditure)	–4.18	3.999
Control variables		
GDP per capita	6.4920002	1.4440002
Urban population	4.15500005***	3.13600005***
Constant		–1,991.082
N		335
R^2		0.932

*$p < .05$. **$p < .01$. ***$p < .001$.

Two indicators of liberation, age-dependency ratio and women employed in industry, are positively related to female conviction rates. Age dependency ratio is significant, exhibiting a negative relationship with female crime rates, consistent with the liberation hypothesis. In other words, as the number of dependents among women decreases, female conviction rates increase. The association between age-dependency ratio and female conviction rates suggests that female liberation may influence female conviction rates. As women separate from the traditionally female realm that emphasizes child rearing, they move into gender equalizing roles, which increases opportunities for crime.

Increased participation in industry jobs has a positive, significant effect on female conviction rates. The more women work in these areas, the greater the share of female crime. From this, two possible explanations emerge. The increasing number of women in industry could drive down wages, furthering the marginalization effect. Or it is possible that increasing numbers of women in industry, as well as decreases in age-dependency ratios, may signal an emancipation effect, lending support to the liberation thesis.

General government consumption, representing services that benefit women, has a negative and significant effect upon female conviction rates for women. In other words, increases in services that benefit women reduce the incidence of female conviction rates. This finding is consistent with the economic marginality hypothesis, to the extent that government spending on women ameliorates the economic marginality of females.

INDICATORS OF MALE'S ECONOMIC POSITION ON FEMALE CONVICTION RATES

Also consistent with H1, male economic marginality is associated with increased female conviction rates. Male unemployment is significantly and positively related to female conviction rates. Counter to expectations, male employment in service shows a negative and significant impact for females. Female economic marginality, and subsequent increases in female conviction rates, appears to be a function of the economic positions of males but not entirely in the manner expected.

If women are working service or industry jobs, their crime rates rise. If men are working in the service sector, females' share of crime declines. It is possible that gender relations have been slow to change and women's financial dependence upon men remains the norm. Social institutions, however, may be operating with the premise that women are liberated. Clearly, women's economic marginality is not experienced in an isolated sphere, but is contingent upon the economic position of males. According to this model, women's conviction rates are significantly affected by the economic position of males. Thus, economic hardship characterizes a rise in female conviction rates, but that economic hardship is a function of the economic position of both sexes.

HYPOTHESIS 2: GENERAL INDICATORS

Results offer general support for H2: general economic indicators will influence both male and female conviction rates similarly. Social security tax is not statistically significant for males but is for females. A statistically significant, positive relationship between urban population results for both males and females. The results show a significant, negative relationship between public spending on education for both males and females, suggesting that increased spending on education reduces crime for both males and females. Urban population has positive and significant effect for both males and females. Wages and salaries and GDP do not have a significant effect on either group.

There appear to be only a few variables that affect both men's and women's conviction rates similarly. Even when one common variable is significant for both males and females, the size of the beta coefficient differs for males and females in every case. Based on these results, it is likely that different variables are needed to explain crime that is specific to males and females. To support this notion, three F-tests were calculated.

HYPOTHESIS 3: SIMILARITIES AND DIFFERENCES BETWEEN SLOPES

Of all of the variables representing female economic marginality, only divorce had a significant, positive effect for males. The others cannot be meaningfully associated with male conviction

rates. In addition, male unemployment, ostensibly a measure of male economic marginality, is not significantly related to male conviction rates. This result suggests that the indicators of economic marginality for females, which predict female crime, cannot be extended to explain male crime.

What is of great interest in the male model is that variables representing prosperity are significantly associated with male conviction rates. The variable male employees in industry is positive and significant for males, whereas females employed in industry has a negative and significant effect on male conviction rates.

Although women's rates are affected by changes in the service job category, men's rates are only affected by the higher wage category of industry. This paradoxical relationship between increases in male conviction rates and the participation of males in industry jobs could mean that the influx of females into industry results in a reduction of overall wages.

A potential explanation for the negative relationship between females employed in industry and male conviction rates is that economic strain may be reduced as women enter the work force by relaxing the responsibility upon males to be the breadwinner. This idea is explored further in the discussion that follows this section.

TABLE 4: F-Test Results

F-test 1	Critical F Values and Outcome of Hypotheses
Ho: male and female slopes are equal	F = 49.035*
Hypothesis 1 (H1): male and female slopes are different	reject the null
F-test 2	
Hypothesis 0 (H0): male variables do not explain female conviction rates.	F = 9.554*
H1: male variables do explain female conviction rates	reject the null
F-test 3	
H0: female variables do not explain male conviction rates.	F = .009
H1: female variables do explain male conviction rates.	fail to reject the null

*$p < .05$.

There is strong support for H3: for influential indicators, the magnitude of the relationship will be different between males and females. The coefficients reveal that the effect of each variable is different for both males and females. F-tests are used to examine the hypothesis that the effects of these variables are truly different from each other across the sexes. The first F-test addresses this overall question: Is it necessary to look at male and female models differently? The F value is significant, indicating that the effects of the variables are significantly different for males and females. A high value of F leads to a rejection of the null hypothesis, where a small value of F leads to a failure to reject the null. Because $F = 49.035$, this large value is sufficient to reject the hypothesis that male and female slopes are equal.

The second F-test examines whether male specific variables truly have an effect on female conviction rates. The significant F value for this test confirms the cross-gendered effect. The F value (F = 9.554) is large enough to reject the null hypothesis, which states that male variables do not explain female conviction rates. That is, female crime rates can be better explained by the inclusion of male specific variables.

The third F-test examines the significance of cross-gendered effects in the opposite direction: whether the inclusion of female specific variables can better explain male conviction rates. This small F value, F = .009, is not large enough to reject the null hypothesis that female variables do not explain male conviction rates (see Table 4).

The result of these tests confirms that the relationship between variables and conviction rates are significantly different for males and females. This suggests that certain macro factors associated with crime are gender specific. Also, these F-test results confirm that the economic position of males significantly affects female conviction rates. Perhaps of greater interest is that the same cannot be said for males. Indeed, the economic position of females is not significantly associated with male conviction rates.

DISCUSSION AND CONCLUSION

Regarding the regression results for males, the overall results resist a concrete explanation that is in accordance with the theoretical model proposed here. Still, there are some conjectures that can be made from these results. Although several indicators are significant for females, regression and F-test results show that indicators of female economic positions do not have a statistically significant effect on male conviction rates. The indicators that positively and significantly increase male conviction rates are divorce and males employed in industry. The association between divorce and male conviction rates has multiple interpretations. To the extent that divorce represents female liberation, women's move toward independence may be a difficult transition time, characterized by hostility between the sexes (Russell, 1975). Or this association may be due to the disappearance of social bonds and controls between husbands and wives, as a result of divorce, where the inhibition to commit crime is removed (Sampson & Laub, 1990).

What is paradoxical is that, aside from education, overall female employment in industry is the only variable that has a negative impact on male crime rates. As mentioned earlier, a possible interpretation is that women's participation in the labor force may alleviate the economic burden on men to be the breadwinners or sole providers for a family.

The increase of male conviction rates resulting from men in industry could indicate increases in the level of country-wide development, which could then result in an increase in opportunity for consumer based crime. With increased production of material goods, more opportunity exists to commit property-related crimes. Other studies have found this to be a significant variable in cross-national analyses (Steffensmeier et al., 1989).

Clearly, the results for male conviction rates are ambiguous. It is not clear if there is a connection between gender equality, economic marginality, and male conviction rates. This may be due to

the inability to measure particular crime categories in this analysis. For example, it is possible that women's participation in the labor force results in an economic relief among men, followed by a reduction in crime, but this may only be applicable to men's economic crimes. As mentioned, the dependent variable does not distinguish such relationships. Given these ambiguous results for men, and the lack of statistical support from the F-test, little explanation regarding influences upon male conviction rates can be offered.

With regard to testing of male conviction rates in this model, the conclusion is that female specific indicators that explain female crime cannot predict male crime. This conclusion does not lend support to gender-neutral theories of crime. To the extent that theories of crime try to account for crime across the sexes, they would need to be sensitive to gender differences as well as similarities. A comprehensive theory of crime should incorporate into its framework the way in which gender, and gender relations, differentially shape crime. This is especially poignant with regard to economic dependence across the sexes. Men show little benefit from the changing economic position of women, whereas women's conviction rates are particularly dependent upon the income generated by male employment.

The results show that factors linked to a decrease in the female conviction rates are services that benefit women (general government consumption) along with male employment in service. The control variable of public spending on education is also a significant predictor of lower female conviction rates. Educational gains likely decrease economic marginality. All of these indicators can be associated with a reduction in economic marginality among women.

Factors that stimulate conviction rates among women are male unemployment, divorce, decreased number of dependents, females in industry, females in service and increases in social security taxes. As reported above, these results reveal that women's economic marginality may be tied to men's financial/occupational situation because female conviction rates rise with male unemployment and decrease when men are employed. As expected, increases in female service jobs, and possibly the concomitant result of higher social security taxes, result in higher conviction rates among women. This supports the economic marginality argument.

The age dependency ratio coefficient demonstrates a negative relationship with female conviction rates (i.e., as the number of dependents to working adults declines, female conviction rates rise). Also, the number of women in industry has a similar relationship. When women enter the industry sector in greater numbers, conviction rates rise. Both of these variables lend support to the liberation hypothesis. The results suggest that liberation does have an effect on female crime rates, but the nature of these results also challenges the usual explanation that links liberation to crime (Adler, 1975; Simon, 1975).

Results from this study suggest that liberation does indeed stimulate crime among women, to the extent that changing roles and expectations of gender equality further marginalize women; the following empirical evidence justifies this. First, the model generates statistical support for the hypothesis that economic marginality is positively associated with female conviction rates. Second, the model shows that women's conviction rates are strongly associated with male's employment status, which suggests the continued existence of traditional family institutions in which women are dependent upon men for economic support. Third, the positive association

between two emancipation variables (women in industry and age-dependency ratio) and female conviction rates suggest some connection between liberation and crime. Given these findings, it appears that the social institutions of employment, marriage and family are lagging behind liberated ideology. It is possible that the expectation of women becoming self-sufficient has not yet taken place. There is documentation that attitudes toward the family have changed to the extent that women are no longer expected to maintain traditional roles (Thornton, 1989). These sorts of ideological shifts may encourage crime to the extent that women are expected to be independent, but are still dependent upon men for economic support and experience obstacles to economic liberation (such as their concentration in service jobs). It is likely, then, that a clash of ideology and reality is taking place: women's circumstances do not reflect changes in social values, behavior does not reflect contemporary attitudes, and social institutions have not responded to changing norms.

Some of the conclusions emerging from this analysis are as follows: (a) Rates of female conviction are not wholly affected by isolated measures of female economic marginality, (b) the conviction rates for women appear to be partially contingent upon the economic behavior of men, (c) economic downturns leading to unemployment among men can stimulate convictions among women, (d) increased crime among women may be a social response to the loss of income associated with male unemployment, (e) there is a consistent influence of male economic indicators upon female conviction rates (this may measure gender inequality in which women exhibit patterns of continued economic dependence upon men), (f) patterns of men's conviction rates are relatively unaffected by women's economic marginality, and (g) specific job types are critical in determining economic marginality.

Some other issues arise from this study. There is a distinctly different effect of employment upon crime rates depending on the job category or type of work. Care should be exercised in choosing employment categories to include in future analysis. Also, the current study establishes that overall labor force participation does not adequately capture the effect of women's economic marginality or conversely, their independence.

Factors related to sex role ideology may affect the occupational situations of men and women. This is supported by the strong effect of male occupational/economic status upon women's crime rates. It appears that female economic marginality cannot be fully understood in the absence of measures controlling for male economic positions. Moreover, this analysis suggests that there may be a disparity between the pervasive change in attitudes regarding women's liberation and the actual decisions women make about work and family. Women may be economically dependent upon men, but are expected to be self-sufficient. Special attention should be given to the implications of the sexual division of labor. The concentration of women in service jobs, which appears to be crime producing, suggests the negative consequences of continued patterns of sex segregation and discrimination in the employment sector. Finally, future studies should apply this theoretical model to different crime types.

NOTES

1. It is important to note that although these hypotheses are tested on cross-national data, the hypotheses are derived from the theoretical and empirical literature from the United States.

Space limitations prevent me from engaging in a literature review of the entire 10 nations in this study. Moreover, in many cases, the literature on each country is limited or completely unavailable. So, the hypotheses are generated from U.S. empirical literature and are then tested on a sample of various countries.

2. Persons convicted are defined as "persons found guilty by any legal body duly authorized to do so under national law, whether the conviction was later upheld or not." In two countries, number of suspects, number of apprehensions, or number of prosecutions were used as proxies for conviction, when conviction data was not available. Comparing suspect, apprehension, prosecution, and conviction values within each country shows that these values are very similar. In most cases, the value decreases with eachmove from suspects to apprehension, through prosecution and conviction. In some cases, the prosecution and conviction rates are nearly identical.

3. Adult conviction rates are those convictions per 100,000 adults. In most cases, the definition of an "adult" is over the age of 18. In some cases, a nation's definition of an adult is 16 an older. In other cases, this information is missing or unknown. The population values, which are used to construct the rates per 100,000 comprise the entire population 15 years and older. The population data provided by the United Nations (UN) breaks down its population values into age groups. Due to these restrictions, an 18 and older population figure could not be computed. Technically, then, the dependent variable for each country are expressed as "the rate of adult convictions per 100,000 members of the population aged 15 and over." This will ultimately result in more conservative estimates of each national conviction rate.

4. The UK data is comprised of England and Wales, Northern Ireland, and Scotland.

5. Ideally, these hypotheses should be tested on specific crime types by gender. Because this data was not available from the UN five-wave data used here, conviction rates are considered a proxy measure. The results should be interpreted in light of this limitation.

6. Although it would be ideal to have a more current data set, the United NationsWorld Surveys on Crime Trends and Criminal Justice Systems has not published any current data. Given that this particular data set is considered "underanalyzed" and because cross-national crime data is difficult to obtain, I decided to proceed with analysis on this data set. In addition, the primary purpose of this study concerns theory development and theory testing. It is not my intention to show whether these hypothesized relationships are or are not occurring over any particular time period. Rather, certain parameters within time and space were selected to test a set of hypotheses. I recommend further tests of these hypothesis on different levels of analysis, whether historical or contemporary.

7. This is true to the extent that conviction rates can be considered an adequate proxy for crime. It is discussed elsewhere in this text that conviction rates can be regarded as a conservative measure of crime, however, they also measure the unique operations of each national criminal justice system.

8. All countries whose per capita GNP in 1998was $9,630 or less were classified as developing. All countries whose per capita GNP was $9,630 or higher in 1998 was classified as developed. Developing counties are as follows: Panama and Chile. Developed countries are as follows: United States, Denmark, Austria, Sweden, United Kingdom, Italy, Greece, and Portugal. Note that the World Bank further delineates these categories into Low Income Countries, Lower Middle Income Countries, and High Income Countries. For ease and space considerations, the data here are presented in only two categories.

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