

Do Break-Ups Cause Break-Ins?¹

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Growing concerns over the increasing juvenile crime rate have sparked extensive research into the socioeconomic and psychological factors that lead young adults to engage in illegal behavior. Over the past forty years, the number of juvenile court cases handled has more than doubled (George T. Kurian, 1994). The rise in destructive acts amongst youths is evident in school dropout rates, teenage pregnancies, drug abuse, and quite apparently in this substantial increase in teenage crimes committed. Over the past several years, attempts have been made to link this growing propensity towards crime with the breakdown of the American family. According to a 1988 survey by the National Center for Health Statistics, children in single-parent families, many of which are products of divorce, are two to three times as likely to have emotional or behavioral problems than children in two-parent families. This paper is an attempt to solidify the correlation between divorce and juvenile crime.

I. Theory

In examining this correlation, a data set from 1957 to 1990 is constructed which includes the divorce rates and juvenile court cases handled per one thousand people. Other data used to explain this phenomenon include the Gini Coefficient, the percentage of families in poverty, the female labor participation rate, and the overall crime rate. These factors may be additional indicators of the conditions that lead to an increasing rate of juvenile crime.

It appears that the quality of life for children in America has been improving; there has been a decrease in the number of children per family, an increase in the educational level of parents, and historically high levels of public spending in areas of welfare and education (Barbara Dafoe Whitehead, 1993). Despite these facts, the overall well-being of children has undergone a tremendous decline. According to Sociologist Barbara Dafoe-Whitehead, the proportion of children in poverty has increased dramatically, from 15 percent in 1970 to 20 percent in 1990, while the percentage of adult Americans in poverty has remained roughly constant. The teenage suicide rate has more than tripled, school performance has continued to decline, and juvenile crime has increased and become more violent. Defoe-Whitehead asserts that, "if we fail to come to terms with the relationship between family structure and declining child well-being, then it will be increasingly difficult to improve children's life prospects" (Dafoe-Whitehead, 1993, 50). Studies conducted by the University of Michigan Youth Services and the Michigan's Children's Psychiatric Hospital verify this relationship. These studies found that divorce "was a special stress for which children coped by acting out" overt aggressions. In comparing children of divorce with children whose families are legally intact, a substantially higher incidence of depression and delinquency was experienced by youths from broken homes. The divorce rate in this study has increased substantially from 2.2 per one thousand in 1959 to 4.7 per one thousand in 1990 (Kurian, 1994).

The influence of the overall crime rate in the United States is one potential determinant of juvenile crime. A historic increase in crimes committed by people of all ages may simply mean a greater propensity towards juvenile crime. Throughout the time period examined the overall crime rate has risen from 8.35 to 58.2 per one thousand.

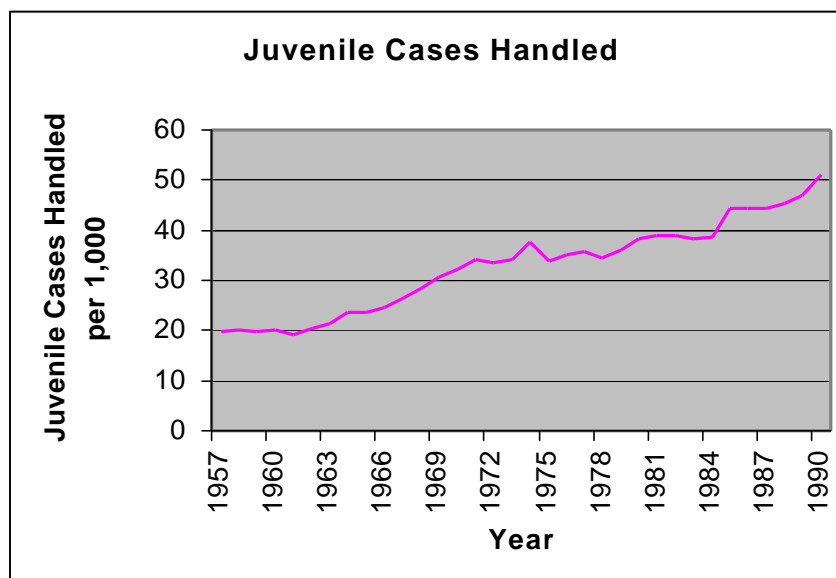
Juvenile crime has exhibited similar growth, with juvenile court cases handled increasing from 19.8 to 51.0 per one thousand (Kurian, 1994). Youths may be influenced by the actions of those around them; patterns of socially deviant behavior may become more widespread amongst youths as society as a whole experiences these problems.

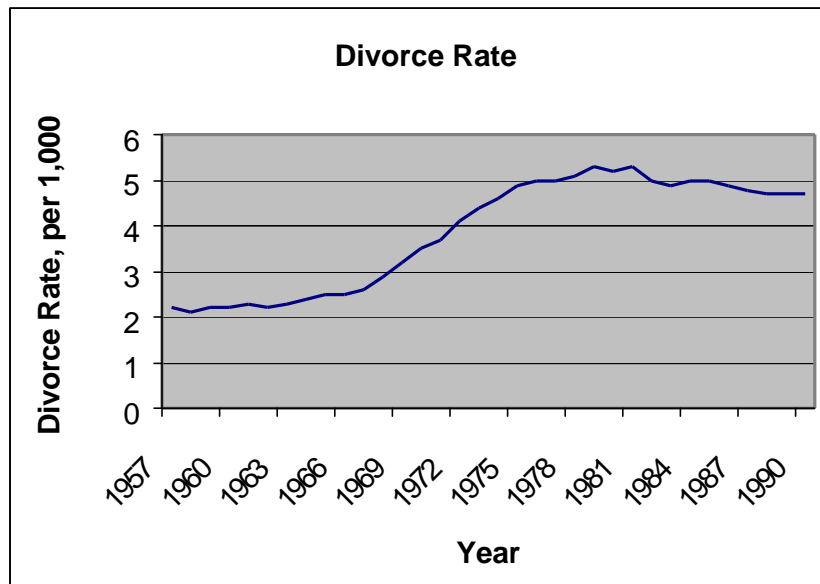
The Female Labor Force Participation Rate may also influence the juvenile crime rate. The FLFPR is measured as a percentage of women in the workforce (number of women who work / the number of women eligible to work). The FLFPR has steadily increased from 34.6 to 54.3 percent over the thirty-one year timeframe (U.S. Bureau of the Census, 1995). This figure may provide an indication of the amount of parental supervision occurring within a household. An upward trend in the FLFPR might suggest a decrease in the amount of time and attention that children receive from their mother. In viewing the mother as the parent traditionally responsible for child-care, the decrease in time spent in the home will adversely affect child development. Without adequate supervision and attention, children may be lured into criminal activity.

Other considerations in this study are the percentage of families below the poverty level and the Gini Coefficient. Subsistence living may make individuals more apt to engage in socially unacceptable behavior, including crime. Crime may occur out of necessity or may be endemic within certain communities. The poverty rate in the United States has been decreasing since 1940, which might suggest that there would be a similar decrease in crime. However, this data shows that there has been an increase in crime. This analysis has been extended to include the widening gap between rich and poor, as measured by the Gini Coefficient. The Gini Coefficient has risen from 0.351 to 0.396 from 1959 to 1990. While the overall poverty level has decreased, there has been a

dramatic increase in social inequality between classes. This large gap between income brackets denotes declining social mobility and a diminishing middle class. Lack of opportunity and pervading frustration within growing segments of the population creates a domestic climate encouraging crime.

Due to incomplete data, this study is unable to take into account several factors that may also lead to juvenile crime. These factors include drug and alcohol usage among youths. The pertinence of this information is dual-faceted. Drug and alcohol abuse impairs judgement and may cause youths to act irresponsibly. Also, the addictive nature of these substances may create situations where desperation induces criminal behavior. The prevalence of violence in popular culture may also encourage crime. Impressionable youths, inundated with violent images through television, video games, and advertising, may be unable to decipher “right from wrong.” Due to the unavailability of accurate data regarding teenage drug and alcohol use, along with the subjective nature of information regarding violence and the media these variables have not been included.





Source: Datapedia of the United States, 1970 - 2000

II. Regression Analysis

Predictor	Coef	StDev	T	P	VIF
Constant	-6.12	16.64	-0.37	0.716	
Divorce	-3.561	1.640	-2.17	0.039	42.2
Female L	0.9902	0.2467	4.01	0.000	25.4
Gini Coe	9.22	67.23	0.14	0.892	11.5
% Fam be	-0.3888	0.1646	-2.36	0.025	2.9
Crime Ra	0.3400	0.1209	2.81	0.009	57.6

S = 1.768 R-Sq = 96.8% R-Sq(adj) = 96.2%

Analysis of Variance

Source	F	P
Regression	170.08	0.000

The results of the initial regression analysis showed statistical significance in all but two variables, when measured at the 5 percent level of significance. The Gini Coefficient had a P-value of 0.892 that indicates insignificance. The Divorce Rate had a P-value of 0.039 that shows significance when measuring a 5 percent confidence level in a two-tailed test. The Percent of Families Below the Poverty level falls below the critical

value and also is significant. The F-statistic indicates overall significance. The F-value of 170.08 far exceeds the critical value of 1.89 for a sample size of 34.

The Divorce Rate, the Female Labor Force Participation Rate, the Overall Crime Rate, and the Percentage of Families Below the Poverty Line all had individual T-values that fell within the critical region. The critical T-value in this test was 2.042, which excluded the Gini Coefficient's T-value of 0.14. The R-Sq (adj) statistic of 96.2 indicates that 96.02 percent of the dependent variables variation from its mean is explained by the estimated equation.

Several factors, however, suggested the presence of multicollinearity. The key variable in this research, the Divorce Rate, exhibited an unhypothesized negative sign when the regression was conducted. As a result, two tests were conducted in order to test for the presence of multicollinearity: the Variance Inflation Factors (VIF) and the Correlation Coefficients. A VIF above 10 suggests a presence of multicollinearity. The VIF's for the Divorce Rate, the FLFPR, the Gini Coefficient, and the Overall Crime Rate were substantially greater than ten. The only VIF with no indication of multicollinearity was the Percentage of Families Below the Poverty Level. Its VIF was only 2.9. Also, the Pearson Correlation Test was conducted. It revealed a high correlation between: the Divorce and Overall Crime Rates (0.984), the Divorce and FLFPR Rates (0.866), and the Crime and FLFPR Rates (0.910).

Since multicollinearity had been confirmed, the next step was to eliminate it. By putting the variables in log form, it made it possible to compare the changes in the data. This, however, had no effect on the multicollinearity that existed in the variables. Due to the substantially high correlation coefficients of the FLFPR and the Overall Crime Rate,

the regression was run without them (see Appendix). In this regression, the P-values and T-values all exhibited statistical significance. Overall, the F-value demonstrated significance. Also, the coefficient for the Divorce Rate became positive as anticipated. When the VIF's were once again calculated they all fell below 5, which indicates that multicollinearity is no longer present. The R-Sq (adj) also remained high at 92.3 percent. Finally, the regression was rerun in log form in order to make the data easier to compare. In this manner, the effects could be measured in percentages. The final regression equation is:

$$\ln(\text{juv}) = 7.31 + 0.488 \ln(\text{divorce}) + 3.23 \ln(\text{gini}) - 0.458 \ln(\text{poverty})$$

Predictor	Coef	StDev	T	P	VIF
Constant	7.3065	0.7324	9.98	0.000	
$\ln(\text{divorc})$	0.48807	0.05748	8.49	0.000	2.7
$\ln(\text{gini})$	3.2349	0.4732	6.84	0.000	2.6
$\ln(\text{povert})$	-0.45827	0.09147	-5.01	0.000	2.3

S = 0.07037 R-Sq = 94.8% R-Sq(adj) = 94.3%

Analysis of Variance

Source	F	P
Regression	184.11	0.000

These results indicate that the Divorce Rate, the Gini Coefficient and the Percentage of Families Below the Poverty Level all have a statistically significant impact on the number of juvenile crimes (per one thousand) committed. According to these findings, a 1 percent increase in the Divorce Rate yields a 0.488 percent increase in juvenile crime. Meanwhile, the Gini Coefficient seems to have a more substantial effect of the juvenile crime rate. Holding the other variables constant, a 1 percent increase in the Gini Coefficient will yield a 3.23 percent increase in the number of juvenile crimes per one thousand. Finally, a 1 percent increase in the Percentage of Families Below the

Poverty Level results in a 0.458 percent decrease in the number of juvenile crimes committed. Although this finding was counterintuitive, it was consistent with the movement of the original data set. The Percentage of Families Below the Poverty Rate in the original data set was declining as juvenile crime was rising. These regression results demonstrate this same disparity.

III. Conclusion

A statistically significant positive coefficient estimate on the divorce variable provides support for the hypothesis of this research that the breakdown of the American family has been a contributor to the increasing juvenile crime rate. The results of this study create serious implications for policymakers. Two possible solutions include counseling and providing at-risk children with after school programs designed to keep them off the streets while their parents are working. Both marriage and divorce counseling may provide necessary support and guidance for couples and their families. Divorce counseling would help make the transition out of marriage easier for both the partners and the children who are involved. Recreational programs would provide a supervised place during after school hours, the time that juvenile crime is reportedly highest. These programs would consist of sports activities, games and crafts. These are possibilities to help alleviate the current problem of juvenile crime, however, more must be done to change societal attitudes toward both marriage and divorce.

Appendix

Regression Analysis Using the Five Original Variables

The regression equation is

Juvenile Cases, per 1000 = - 6.1 - 3.56 Divorce Rate, per 1,000
 + 0.990 Female LFPR + 9.2 Gini Coefficient
 - 0.389 % Fam below Pov Level, per 1000
 + 0.340 Crime Rate, per 1000

Predictor	Coef	StDev	T	P	VIF
Constant	-6.12	16.64	-0.37	0.716	
Divorce	-3.561	1.640	-2.17	0.039	42.2
Female L	0.9902	0.2467	4.01	0.000	25.4
Gini Coe	9.22	67.23	0.14	0.892	11.5
% Fam be	-0.3888	0.1646	-2.36	0.025	2.9
Crime Ra	0.3400	0.1209	2.81	0.009	57.6

S = 1.768 R-Sq = 96.8% R-Sq(adj) = 96.2%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	5	2658.63	531.73	170.08	0.000
Residual Error	28	87.54	3.13		
Total	33	2746.17			

Source	DF	Seq SS
Divorce	1	2156.20
Female L	1	429.36
Gini Coe	1	20.25
% Fam be	1	28.08
Crime Ra	1	24.73

Unusual Observations

Obs	Divorce	Juvenile	Fit	StDev Fit	Residual	St
18	4.60	37.500	33.948	0.702	3.552	
2.19R						
29	5.00	44.200	40.778	0.744	3.422	
2.13R						
34	4.70	51.000	47.973	0.919	3.027	
2.00R						

R denotes an observation with a large standardized residual

Pearson Correlation Test

	Divorce	Crime Ra	% Fam be	Gini Coe
Crime Ra	0.984			
	0.000			
% Fam be	-0.397	-0.380		
	0.020	0.027		
Gini Coe	0.509	0.582	0.288	
	0.002	0.000	0.098	
Female L	0.866	0.910	-0.195	0.814
	0.000	0.000	0.270	0.000

Cell Contents: Correlation
P-Value

Regression Without the Overall Crime Rate and the FLFPR

The regression equation is
 Juvenile Cases, per 1000 = - 88.1 + 3.53 Divorce Rate, per 1,000
 + 331 Gini Coefficient - 0.931 % Fam below Pov Level, per
 1000

Predictor	Coef	StDev	T	P	VIF
Constant	-88.12	12.53	-7.03	0.000	
Divorce	3.5273	0.5590	6.31	0.000	2.4
Gini Coe	331.40	42.15	7.86	0.000	2.2
% Fam be	-0.9307	0.1932	-4.82	0.000	1.9

S = 2.535 R-Sq = 93.0% R-Sq(adj) = 92.3%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	3	2553.41	851.14	132.47	0.000
Residual Error	30	192.75	6.43		
Total	33	2746.17			

Source	DF	Seq SS
Divorce	1	2156.20
Gini Coe	1	248.15
% Fam be	1	149.06

Unusual Observations						
Obs	Divorce	Juvenile	Fit	StDev Fit	Residual	St
Resid						
5	2.30	19.300	25.417	0.918	-6.117	-
2.59R						
34	4.70	51.000	44.431	0.978	6.569	
2.81R						

Regression Without the Overall Crime Rate and the FLFPR in Log Form

The regression equation is

$$\ln(\text{juv}) = 7.31 + 0.488 \ln(\text{divorce}) + 3.23 \ln(\text{gini}) - 0.458 \ln(\text{poverty})$$

Predictor	Coef	StDev	T	P	VIF
Constant	7.3065	0.7324	9.98	0.000	
$\ln(\text{divorc})$	0.48807	0.05748	8.49	0.000	2.7
$\ln(\text{gini})$	3.2349	0.4732	6.84	0.000	2.6
$\ln(\text{povert})$	-0.45827	0.09147	-5.01	0.000	2.3

S = 0.07037 R-Sq = 94.8% R-Sq(adj) = 94.3%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	3	2.73493	0.91164	184.11	0.000
Residual Error	30	0.14855	0.00495		
Total	33	2.88348			

Source	DF	Seq SS
$\ln(\text{divorc})$	1	2.50298
$\ln(\text{gini})$	1	0.10766
$\ln(\text{povert})$	1	0.12429

Unusual Observations						
Obs	$\ln(\text{divorc})$	$\ln(\text{juv})$	Fit	StDev Fit	Residual	St
Resid						
5	0.83	2.9601	3.1609	0.0257	-0.2008	-
3.07R						
34	1.55	3.9318	3.7833	0.0269	0.1486	
2.28R						

R denotes an observation with a large standardized residual

Calculating the Missing Data of the FLFPR

In order to complete our data set, it was necessary to average the available data.

The earlier year data was subtracted from the later year data and then the difference was

divided by the number of missing years plus one. The missing dates that this was done for were 1957–1959, 1961–1964, 1966–1969, 1971–1974, 1976, 1977 and 1989.

References

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¹This research was developed with the help of Dr. Arthur Raymond, Associate Professor at Muhlenberg College.