# Childhood and Family Background of Killers Seen for Psychiatric Assessment: A Controlled Study

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The Parent Child Relations (PCR) of 109 killers, 38 nonviolent offenders and 54 normal controls were compared on a standard PCR questionnaire and on medical record information, rated for reliability. Results showed that killers had disturbed PCR but they did not differ from nonviolent offenders. The extreme violence reported in uncontrolled homicide research was not found in this study. Killers differed from nonviolent offenders in less often being adopted or fostered, less often running away from home but in more often stealing as a child. The triad of enuresis, firesetting, and cruelty to animals was not significant and had little predictive value.

This report is one part of a larger study of homicide.<sup>1,2,3</sup> Our research group is the first to our knowledge to employ a controlled study using a standard psychological test and information assessed for reliability to compare parent-child relations of killers to those of nonviolent offenders from the same forensic setting. Before reporting our results, the available information on family background of killers and then on childhood indicators of violence will be reviewed.

#### **Parent Child Relations**

Judging from case study reports, cruel and extremely violent parenting seems typical in the childhood of killers. 4.5.6.7.8.9.10.11 For example, Willie<sup>12</sup> found on the basis of clinical interviews of 200 convicted murderers that 25 percent had a history of violent child rearing with actual beatings or physical abuse. He further indicated that they had extremely damaging early environments with 43 percent showing rejecting parents, lack of emotional warmth, and cruelty. Such backgrounds contributed to the finding that 76 percent of the murderers had defective superegos. Similar results were reported by Tanay<sup>4</sup> for 67 percent of 53 killers seen in private practice and by Scott<sup>10</sup> who reported on killers who committed infanticide and recalled parental violence. Satten et al.'s<sup>13</sup> study of four cases of senseless murders

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found all killers to be sane, but they showed some personality abnormalities. Significant in all cases was the history of extreme parental violence and chaotic family life.

Brutal upbringing may relate to personality abnormalities in the parents. For example, Hill and Pond<sup>14</sup> found among 105 killers, 9 whose fathers were alcoholic, 1 epileptic, and 3 "insane." In 35 percent, there was some history of family morbidity including 13 who had committed suicide. Sorrells<sup>15</sup> reported an even higher incidence of poor parenting: 45 percent of mothers and 68 percent of the fathers of 31 juvenile killers and assaulters suffered alcoholism, emotional disturbance, and incompetence. He noted that the parents were unable to control their own behavior, much less their children's, and served as poor models of responsible behavior. Easson and Steinhilber<sup>16</sup> stated, in a study of 7 adolescents and children who had killed, that in all cases one or both parents fostered and condoned murderous assault.

None of the foregoing studies were controlled, nor were facts on family violence assessed for reliability. One must be concerned about the applicability of the findings to killers in general. Use of a control group allows some assessment of the setting from which the cases were drawn, for example, maximum security prison versus minimum security hospital, and of the methods and bias of the researcher. Since so much psychiatric and psychological information is subject to individual bias, the use of two or more evaluators in assessments is preferable to the use of only one. Standardized interviews or tests are preferable to unstandardized procedures since they help provide reliable and valid information. A few studies have used some form of control group, although no study to our knowledge has used standardized interviews or tests and information rated for reliability.

In a controlled comparison, Sendi and Blomgren<sup>17</sup> found a higher incidence of unfavorable home environment in killers than in a control group. Killers experienced more parental brutality and seduction by a parent or "perversion in a parent" as contrasted with controls. Corder et al. <sup>11</sup> compared 10 cases each of parricide, killers of other relatives, and killers of strangers. All three groups showed a high level of family and home disorganization with marked maladjustment in the parents. Of the parricide victims, 20 percent were alcoholics. Of those who killed a relative, 50 percent had a parent who had been diagnosed at one time as psychotic. The adolescents charged with parricide were significantly different from the other groups in showing more indications of both chronic parental abuse and of overattachment, more atypical sexual stimulation by parents, greater abuse of mother by father, and more absent fathers.

Humphrey<sup>18</sup> compared 62 killers, 98 suicide cases, and 76 nonviolent offenders and described the homicide offender's background as "devastating." Typically, the parents more often argued, were unemployed or alcoholic, and the children suffered physical and psychological abuse. There were threats of abandonment and the children were incarcerated in reform

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schools or other institutions. Lack of motivation and disruptive behavior by the child led to rejection by teachers, poor grades and finally expulsion from school or dropping out. Later unemployment and marital difficulties followed from the impoverished background.

Absence of parents either through death or divorce may play a role in homicide. The broken home often has been implicated in crimes and delinquency in general, so one may expect it to be important in homicide. Kahn<sup>25</sup> studied 43 killers who had pleaded insanity as a defense and who were seen at a psychiatric hospital for assessment. He found 47 percent came from a broken home. Frazier<sup>20</sup> similarly found in a study of 31 killers that 58 percent suffered marked parental deprivation due to death, absent parents, were orphans, or foster children. Many also experienced remorseless physical brutality by parents, especially by the father.

# Childhood Indicators of Future Violence

Perhaps as a reaction to the pathological parenting or absence of parenting, children destined to be criminals, violent or otherwise, react with enuresis, running away from home, theft, truancy from school, or violence as manifested by fighting, temper tantrums, cruelty to animals, and firesetting. Perhaps the foregoing behaviors reflect sociopathic features, neurotic traits or lack of socialization of the child despite parents' efforts.

The majority of studies on childhood indicators have been done on ill-defined "aggressive" or "violent" individuals rather than killers. Results of studies have been highly variable. For example, Hellman and Blackman<sup>22</sup> found that the triad of enuresis, firesetting, and cruelty to animals occurred in 74 percent of violent aggressive criminals but only in 28 percent of those without violent antisocial acts. Bach-y-Rita et al. 3 on the other hand found in a group of 130 cases of violent episodic dyscontrol, only 27 percent who suffered enuresis after age 5 and 16 percent who set fires or were cruel to animals.

There are further problems of definition of symptoms and signs in the studies in general. Tapia et al.<sup>24</sup> noted the variable use of the term enuresis and the rather flexible age limit used to define a clinical problem. No clear criteria of persistent enuresis appear to have emerged from the literature, making the existing research rather nebulous. Felthous<sup>21</sup> noted that animal cruelty has to be defined as well. Destruction of insects for example is too common to be useful clinically but cruelty to dogs or cats is significant.

The number of killers among "assaultive," "aggressive," or "violent" offenders is often difficult to ascertain, and there are only a few studies of killers' childhood signs of dangerousness. In the study of homicide per se Frazier<sup>20</sup> found that only 7 percent of 31 killers showed animal cruelty and Kahn<sup>25</sup> found that 7 percent of 43 killers were runaways, and Satten et al. 13 found 3 of 4 killers had a history of stuttering and childhood difficulties with impulse control. Corder et al. 11 found that youths charged with murder of a stranger more often than those killing relatives had a history of poor impulse control, aggressive behavior, previous arrests, and training school experi-

ence. They were also more likely to have been identified as needing psychiatric care previously, to have abused alcohol and drugs, and to have planned the murder. Walshe-Brennan<sup>26</sup> studied 11 children, 18 years old and younger, who had been convicted of homicide, and there were no known adoptions or illegitimacy, but 27 percent had a previous criminal conviction. There was a significant aggressive and overdominant maternal relationship in 72 percent of the cases.

Collectively, the studies suggest that the killer may have a long history of behaviors that could predict later violent behavior. However, it is not evident in all cases and many killers have been described as average, law-abiding citizens. Much violence probably is never reported to the police because it is considered to be part of normal family life. Many killers come from the lower social classes where violence is often thought to be a way of life and this may bias the results of the uncontrolled studies. The frequency of such behaviors in a comparable nonhomicidal group may be quite high. There are few studies in which a control group is used for comparison, and there is no previous study (to our knowledge) in which a standard psychological instrument or ratings assessed for reliability were used to determine the extent of poor parenting by the killer's mother and father. These methodological features were incorporated into the present study with the aim of offering a broader perspective on the role of PCR in homicide.

# Method

Subjects All available cases of homicide assessed by the Forensic Service of the Clarke Institute of Psychiatry from 1969 to 1979 were examined for possible inclusion in the study. The Institute's Forensic Service is a minimum security setting in a large metropolitan community. Individuals seen for referral are sent either by the courts or by the offender's lawyer and in that sense are self-selected. The unit is part of a teaching hospital, Department of Psychiatry, University of Toronto, so that staff may select cases of special interest. Thus, as in most settings, the sample of patients described herein may be biased.

Cases were excluded in which there was insufficient information or in which the accused was found innocent of the charges. There were 109 killers who were compared to 38 nonviolent offenders from the same service. The latter constituted a control group with a criminal charge, referred to the same forensic services as the killers. They were taken from the same time period and had no previous charges or convictions involving violence such as assault, rape, homicide, or armed robbery. Past history was scrutinized to ensure that the individual had not been referred because of frequent fights or for engaging in other violent and/or aggressive acts. Sixteen percent of each patient group was female. However a separate analysis of males only produced essentially the same results. Finally, a group of 54 nonviolent nonpatients from a forensic data bank<sup>27</sup> served as normal community con-

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trols. They had no history of crime, mental illness, sexual anomaly, or heavy drug use.

Materials and Procedures From a survey of the literature, major variables considered important in the study of homicide were noted. Many were derived from MacDonald's<sup>28</sup> book summarizing the literature on homicide, but some came from more recent investigations. All cases were examined retrospectively. Existing medical records were read by two raters, and each variable scored so interrater reliability could be checked. The information came from records describing, among other things, the background variables in the offender's life, parent-child interactions and early education. The pertinent variables for this study will be listed in the tables.

For approximately half the patients, psychological tests were available. The test of interest here was a Parent Child Relations Questionnaire (PCR) and a supplementary list of PCR questions administered with the PCR scales.<sup>27</sup> The PCR offers 16 scales to assess family background of respondents. The questionnaire is reliable and has been shown to have some discriminant validity. The patients who had answered the PCR were compared to those who had not on 104 variables of interest. Only four variables were significant at p<.05 although five were expected to be significant by chance. However, the four were pertinent to this paper.

All data were analyzed by the DEC 2020 computer of the Institute. The PCR was scored by a new program developed by A. Russon. SPSS and BMD were the main package programs used for analysis. Kappa<sup>29</sup> was used to determine interrater reliabilities for all data. The statistic offers a significance test for rater agreement and, moreover, takes into account chance agreement between raters, which can be substantial especially for infrequent behaviors. For example, incest may not occur in over 95 percent of the cases. Raters may agree on that fact 90 percent of the time and still be concurring no better than on a chance basis. Unreliable items as determined by Kappa are not reported here. Items in which there was significant agreement between raters but that produced different outcomes for groups over the two raters also were excluded. Although raters can agree overall, they may differ on their ratings within each group. Thus killers might be rated less reliably than controls were; this would distort results. For example, one rater might say killers were violent, but the other rater would not. although they might agree the control group was nonviolent. Such discrepancies add uncertainty to interpretation of results and, therefore, items showing this pattern were excluded.

#### Resuits

The results of the Clarke Parent Child Relations Questionnaire (PCR) in Table 1 show some family disturbances among killers but not to the extreme extent indicated in the literature (next page). First, there was no scale on which killers differed from both nonviolent offenders and normal controls. Second, five of the six aggression scales were nonsignificant. The Father

	Table 1. PC	R Results	for Killers	, Nonviolen	t Offender	s, and Norma	d Controls			
			Means		Percents of Centile Scores Over 70					
Scale	F Test	K	N	C	K	N	C	$\chi^2$		
MAS	1.12	6.2	6.8	5.2	34	41	24	2.44		
FAS	3.65*	8.7	9.4	6.2	47	50	30	4.45		
SAM	0.33	3.1	3.0	2.8	53	54	59	0.46		
SAF	1.21	3.4	3.2	2.8	58	50	56	0.45		
MAF	0.27	8.6	9.9	8.7	24	36	26	1.17		
FAM	0.68	9.6	9.6	8.0	36	36	31	0.29		
MC	0.91	14.7	13.1	14.6	30	23	37	1.58		
FC	0.72	14.2	12.5	14.2	40	27	44	1.93		
M Aff	6.46†	8.6	8.3	10.1ª	21	14	54	17.70§		
F Aff	6.46†	6.3	4.2ª	7.3	17	4	33	8.80*		
M Str	3.90*	5.6b	4.7ab	4.0 <sup>a</sup>	41	36	26	2.95		
F Str	6.16†	6.2	6.5	4.4ª	36	54	22	7.60*		
M Id	3.72*	3.9	3.8	4.7	21	23	41	5.72		
F Id	4.61*	3.7b	2.8a	4.3ab	28	9	30	3.81		
M Indul	0.62	2.9	3.1	2.5	49	50	41	0.94		
F Indul	1.99	2.1	2.0	1.4	34	36	22	2.38		
N		48	20	54						
Prior Probability		.39	.16	.44						
Percent Correct		62	5	80						
Total Perc	ent Classified	l=60.66								

Discrim.  $\chi^2 = 70.97$ §

Note: \*p < 05,  $^{\dagger}p$  < 01,  $^{\dagger}p$  < 001,  $^{\$}p$  < 0001. Means with same letter superscripted are not significantly different in Newman Keuls test. No letter for mean but F test is significant, indicates a weak effect for overlapping means. The name of each scale can be constructed using the following key. M=Mother, F=Father, S=Respondent, A=Aggression, C=Competence, Aff=Affection, Str=Strictness, Id=Identification, Indul=Indulgence.

K = Killers, N = Nonviolent Offenders, C = Normal Controls

Aggression to Subject Scale was significant, but nonviolent offenders had higher scores. Moreover, there was considerable overlap of scores for the groups. Like nonviolent criminals, the killers judged mother less affectionate and father stricter than normal controls did. The correlation of the scales with MMPI L, F, and K validity scales showed that only nine of the 48 correlations with the PCR scales exceeded 0.30, and only one was over 0.40, none over 0.50. There was a tendency for controls to respond in a more socially desirable and less pathological way, but covariance analysis showed it did not influence the interpretation of results as discussed here. Individual items on parental brutality (Table 2) did not differentiate offender groups, and thus results did not support the hypotheses from the literature.

Killers experienced somewhat more family violence than normal controls but they did not differ from nonviolent criminals in this regard, based either on clinical ratings or the self-reported PCR. Items dealing with parental pathology showed that the killers resembled the nonviolent criminals more than they did normal controls. Both offender groups more often than normal controls had fathers who were drunk and in trouble with the police. Noteworthy is the lack of mental illness in fathers or mothers (8 percent of killers' parents were hospitalized vs. 8 percent of nonviolent offenders and 1 percent of normal controls).

Table 2. Family Background and Selected PCR Items

rabie 2. Family	Background and	1 Selected	PCK Items		
		Percent Killers	Percent Nonviolent Offenders	Percent Normals	$\mathbf{F}/\chi^2$
Father alcoholic/heavy drinker		30	32		0.04
Father often drunk		32	39	10 <sup>a</sup>	5.61†
Mother alcoholic/heavy drinker		5	13		2.68
Father beat accused		16	21		0.75
Father mentally ill		8	11	0	2.66
Mother mentally ill		8	6	2	1.12
Father and Mother fought often		34	32	-	0.07
Father ever in trouble with police +		30	39	7a	7.69‡
Mother had bad temper with you		25	33	18	0.43
Father had bad temper with you		33	56	26	2.47
Father often grouchy with you		23ab	35b	13ª	3.54*
Mother often grouchy with you		8	10	15	0.59
Often argue with mother		15	28	20	0.25
Often argue with father		17	35	13	0.49
Father punishes with strap,			55		0.49
switch or cane	Never—	40	24	67ª	8.80‡
	Sometimes—	50	59	30	
Mash an acceptable and the second	Often-	10	18	4	
Mother punishes with strap,	N	2.7h	5/ah	7.45	C 274
switch or cane	Never-	37b	56ab	74ª	5.27†
	Sometimes—		39	22	
T	Often-		6	4	
Father struck you with fist	Never-		72	85	1.31
	Sometimes—		17	13	
	Often-		11	2	
Mother struck you with fist	Never-		79	91	1.00
	Sometimes—	8	16	7	
	Often-	2	5	2	
Mother slapped or spanked you	Never-	21	16	42	1.60
	Sometimes—	67	84	51	
	Often—	12	0	7	•
Father slapped or spanked you	Never-	23	29	35	1.54
	Sometimes—	67	47	59	
	Often-	10	24	6	
So angry at father, thought you could kill him		37	33	18	2.42
So angry at mother, thought					
you could kill her		19	10	9	0.58
Saw father strike mother	Never-	62	65	85ª	4.04*
	Sometimes—	23	18	11	
	Often-	15	17	4	
Saw mother strike father	Never—		65	96ª	6.85+
and internet active and a	Sometimes—		29	4	0.05
	Often-		6	ò	
Father cruel to you	Never—		44	68	2.30
Tuttler cruer to you	Sometimes—		39	26	2.50
	Often-		17	6	
Mother cruel to you	Never—		78	81	0.40
Mother crue to you	Sometimes—		22	17	0.40
	Often-	6	0	2	
Fother had temper tentrums	Ollen-	37	39	31	0.27
Father had temper tantrums		31			0.27
Mother had temper tantrums		31	17	31	U. /9

<sup>&</sup>lt;sup>a</sup>Means with same letter superscript were not significantly different. Although percent of respondents for item alternatives are reported, the group means were evaluated for significance. Percentages do not always total 100 because of rounding error.

<sup>†</sup>This item and those that follow are from the self-report PCR or its supplementary questions. Symbols for significance are the same as used in Table 1.

The childhood indicators of criminality are reported in Table 3. Only three indicators were positive: adoption/foster child, running away from home, and theft as a child. The killers had significantly fewer cases of adoption than the nonviolent controls but they had a greater incidence of childhood thefts. Both offender groups, perhaps as a result of parents' behavior, ran away from home more often and were in fist fights more often both before and after 16 years of age. The triad of enuresis, firesetting, and cruelty to animals was nonsignificant. Since Tapia et al.<sup>24</sup> pointed out the ambiguity of the term enuresis, we examined all incidence of bedwetting and noted the age when it stopped. Had this variable been significant in the group comparison, a more refined analysis could have been undertaken. Similarly, since Felthaus<sup>21</sup> indicated that cruelty to dogs and cats was more noteworthy than cruelty to lower animals, this was also examined, and again no significant results emerged. Therefore only the general terms enuresis and cruelty to animals are noted in the results.

All the signs collectively indicate criminality rather than a tendency to aggression and even in this context, only 1/5 of the cases at best were correctly identified. The number of indicators positive in the two patient groups was not significantly different. The so-called "dangerous triad" appeared in only 1 percent of killers and in no nonviolent offender. The traits were absent in over 78 percent of the total sample, and thus the utility of this measure is questionable. The same is true of all indicators in Table 3 taken

Table 3. Childhood Indicators of Criminality							
		Percent Killers	Percent Nonviolent Offenders	Percent Normals	$\mathbf{F}/\chi^2$		
Adopted or foster child		15	34		6.81*		
Run away from home ever		46 <sup>b</sup>	35ab	19a	5.67†		
More than 5 fist fights <sup>++</sup>							
-before 16 years old		50 <sup>6</sup>	35ab	28ª	3.00*		
-after 16 years old		34	20	3ª	10.08§		
Theft		31	5		4.55*		
Enuresis		19	16		0.15		
Nervous habits (tics, twitches, nail-biting)		27	27		<del></del>		
Cruelty to animals†		8	0		0.06+		
Firesetting		7	3		0.93		
Truancy/suspension from school		27	30		0.10		
Number of triad signs positive:	0	77	82		1.36		
enuresis, firesetting,	1	16	18				
cruelty to animals	2 3	6	0				
	3	i	0				
Percent any of above signs	0	45	26		1.02		
positive	1	16	24				
	2	16	24				
	3	14	13				
	4 or more	10	13				

<sup>\*</sup>Note: Meaning of superscripts and significance of symbols are the same as Table 2

<sup>\*</sup>Fisher Exact Test

<sup>\*\*</sup>Self-report from PCR supplementary questions

together. The difference between killers and controls was nonsignificant, and 40 percent of the total sample showed no signs whatsoever.

Supplementary PCR items asked if (1) respondent saw or (2) overheard parents having sex; (3) had sexual feelings toward family members at any time, (4) had sex play with sisters or (5) brothers, (6) saw mother nude to waist or (7) completely nude, whether (8) mother or (9) father were concerned you keep genitals clean, (10) mother or (11) father washed your genitals, (12) mother or (13) father handled your genitals in a sexual way, (14) if there was sex contact with any male or (15) female adult when respondent was (16) 12 or younger or (17) when they were 13 to 15 years old. Only one item was significant. More nonviolent offenders had sex play with fathers than either killers or controls (F = 4.23, p < .05). However, in the majority of cases in all groups, the behaviors were absent.

The total sample of killers was not administered the PCR questionnaire. To check whether a biased sample was administered the test, those given the PCR were compared with those not given it. One hundred four variables evaluated by the raters, including all variables in this report were examined for group differences. Five variables would be expected significant by chance, and four actually were statistically significant at p < .05. Killers administered the PCR (more often than those not administered it) had a father who was alcoholic (38 percent vs. 20 percent, t = 2.06, p < .05) more often ran away from home (31 percent vs. 7 percent, t = 3.24, p < .01), but less often were cruel to animals (2 percent vs. 15 percent, t = 2.47, p < .05), and were less often mentally ill at the time of their offence (25 percent vs. 46 percent, t = 2.09, p < .05). Thus the self-reported PCR may be biased in some respects, but there were no differences in clinical ratings of familial violence in the two groups.

### Discussion

The killers seen for psychiatric assessment looked much like the nonviolent offenders in their family background and in the childhood manifestations of criminality. Although there were some family disturbances in both groups, there is little that could be related to the potential homicide per se. The conclusions derived from uncontrolled studies and from those using subjective clinical impressions were not supported in the present study. When a control group of nonviolent offenders was used and when standardized and reliable measures of family background was administered, there was no sign of the extreme brutality and violence suggested in uncontrolled reports. One may say that a pattern of frequent violence occurred in less than 10 percent of the offender groups' families. This does not support a modeling theory of violence since poorer parenting was also common in the nonviolent offenders. Inadequate parenting may serve as a precondition for antisocial acts in general but it cannot accurately predict violent behavior. Some other factors may be operative.

The limitations of the present study must be noted. The results may have been biased by the setting in which our study was done. Perhaps a sample of

psychiatrically normal killers would produce different results. A further limitation of this study was that, like all retrospective studies, the presence of information on an item in the medical charts, for example, cruelty to animals, is a positive datum for the examiner but the absence of the information is interpreted with less certainty. That is, it may be a negative finding or the original examiner who had evaluated the information may have failed to elicit or report the information of interest to our study. At the same time the results point out the danger of using uncontrolled case or group data and evaluations not checked for reliability.

There were differences in killers who had answered the PCR and those who had not, but there were no differences in killers and controls in clinical reports of familial violence. It was just not as great as indicated in previous reports. Perhaps the killers did not recognize the violence in their background. A family that is perpetually violent may dilute the killer's perception of their behavior so it seems less violent to him or her. In any case, this controlled study is so contrary to previous literature that replication studies should be done.

#### References

- McDonald A and Paitich D: A study of homicide: the validity of predictive test factors. Canadian Journal of Psychiatry 2:549-54, 1981
- Langevin R, et al. The role of alcohol, drugs, suicide attempts and situational strains in homicide committed by offenders seen for psychiatric assessment: a controlled study. Acta Scandanavica 77:229-42, 1982
- Langevin R, et al: Diagnosis of killers seen for psychiatric assessment: a controlled study. Acta Scandanavica 66:216-28, 1982
- 4. Tanay E: The Murderers. Indianapolis/New York, The Bobbs-Merrill Copmany, Inc., 1976
- Pagan D and Smith SM: Homicide: A medico-legal study of thirty cases. Bull Am Acad Psychiatry Law. 7:275-85, 1979
- Duncan JW and Duncan GM: Murder in the family: A study of some homicidal adolescents. Am J Psychiatry 127:1498-1502, 1971
- 7. Smith S and Topeka K: The adolescent murderer. Archives of General Psychiatry 13:310-19, 1965
- 8. Duncan GM, et al: Etiological factors in first-degree murder. J Am Mental Association 168:1755-58, 1958
- 9. Tuteur W and Glotzer J: Murdering mothers. Am J Psychiatry 116:447-52, 1959
- 10. Scott PD: Fatal battered baby cases. Medicine, Science and the Law 13:197-206, 1973
- Corder BF, et al: Adolescent parricide: A comparison with other adolescent murder. Am J Psychiatry 133:957-61, 1976
- 12. Wille WS: Citizens Who Commit Murder. St. Louis, MO, Warren H. Green, Inc., 1974
- Satten J, et al: Murder without apparent motive: A study in personality disorganization. Am J Psychiatry 117:48-53, 1960
- Hill D and Pond DA: Reflection on one hundred capital cases submitted to electroencephalography.
   J Mental Science. 98:23-43, 1952
- 15. Sorrells JM: Kids who kill. Crime and Delinquency 23:312-320, 1977
- Easson WM and Steinhilber RM: Murderous aggression by children and adolescents. Archives of General Psychiatry 4:1-9, 1961
- 17. Sendi IB and Blomgren PG: A comparative study of predictive criteria in the predisposition of homicidal adolescents. Am J Psychiatry 132:423-27, 1975
- 18. Humphrey JA: Social loss: A comparison of suicide victims, homicide offenders and non-violent individuals. Disease of the Nervous System 38:157-60, 1977
- 19. Kahn MW: Murderers who plead insanity. A descriptive factor-analytic study of personality, social, and history variables. Genetic Psychology Monographs 84:275-360, 1971
- 20. Frazier SH: Murder—single and multiple. Association for Research in Nervous and Mental Disease 52:304-12, 1974
- Felthous A: Childhood cruelty to cats, dogs and other animals. Bull Am Acad Psychiatry Law 9:48-53, 1981

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- 22. Hellman DS and Blackman N: Enuresis, firesetting and cruelty to animals: A triad predictive of adult crime. Am J Psychiatry 122:1431-35, 1966
- 23. Bach-y-Rita G, et al: Episodic dyscontrol: a study of 130 violent patients. Am J Psychiatry 127:1473-78, 1971
- 24. Tapia F, Jekel J and Domke H: Enuresis: An emotional symptom? J Nervous and Mental Disease 130:61-66, 1960
- 25. Kahn MW: A comparison of personality, intelligence, and social history of two criminal groups. J Social Psychology 49:33-40, 1959
- 26. Walshe-Brennan K: An analysis of homicide by young persons in England and Wales. Acta Psychiatrica Scandanavica. 54:92-98, 1976
- 27. Paitich D and Langevin R: The Clarke PCR: A clinically useful parent-child relations questionnaire for adults. J Consulting and Clinical Psychology 44:428-36, 1977
  28. MacDonald JM: The Murderer and His Victim. Charles C. Thomas Company, 1961
- 29. Fleiss JL: Measuring nominal scale agreement among many raters. Psychological Bulletin. 76:378-82, 1971
- 30. Blackburn R: Personality in relation to extreme aggression in psychiatric offenders. British Journal of Psychiatry 114:821-28, 1968
- 31. Kalant OJ: The Amphetamines: Toxicity and Addiction. Toronto. University of Toronto Press, 1973