

Parental Punishment

A Longitudinal Analysis of Effects

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• We investigated the relation between parental reports of punishment administered to their 8-year-old children and the reports of these children obtained ten years later concerning their hypothetical use of punishment on their own children. Based on the modeling hypothesis, it was predicted that punishing parents will produce punishing children. Also hypothesized was that parental punishment could be related to other kinds of aggressive behavior manifested by their children. Data, on the use of punishment and on other variables, were obtained as part of a larger study from 185 mothers and 144 fathers. At the same time data were collected from the children of these parents on still other variables. Approximately ten years later these children, now young adults, were reinterviewed and the identical

instrument to which their parents responded was used to collect data on their punishment proclivities. Concomitantly, peer and self-ratings of aggressive behavior and other data were obtained. Punishment appears to have intergenerational effects and is also related to aggressive behavior of male recipients ten years later. Sociocultural variables and IQ, however, play an overriding role in the long-term analysis. Hypothetically, a lower IQ constricts a child's learning options due, perhaps, to limitations in verbal comprehension and concept formation. Direct, salient behavior, such as punitiveness and aggressiveness may be easier to learn than the more subtle and wider variety of social behaviors of which brighter children can avail themselves.

(*Arch Gen Psychiatry* 35:186-191, 1978)

The purpose of the present study is to provide some information on the long-term outcome of the use of punishment during early childhood. Specifically, two questions have been investigated: the transmission of punishing behavior from parents to offspring and the effect of parental punishment on later aggressive behavior of their offspring. Modeling theory as developed by Bandura and his colleagues^{1,2} suggests that children would learn and repeat such punitiveness when they, themselves, become parents. Simply stated, children of punitive parents learn to behave punitively by modeling their behavior on that of their parents.

Another position³ is that punishment, particularly physical punishment, is on a continuum with child abuse. Being the recipients of abuse, such children, the argument goes,

develop into delinquent and aggressively antisocial adolescents^{3,4} and grow up to be batterers and even killers.⁴ Stark in its import, this point of view, however, rests on a paucity of research.

Much more data are available bearing on the relationship between parental punitiveness and aggressive behavior. Generally, the results indicate that parental power assertion in the socialization process is positively associated with the expression of aggressive behavior in children.^{5,7-10} Some evidence to the contrary, that punishment may indeed have an inhibiting effect on the manifestation of aggressive behavior, is also extant.^{11,12}

Most of the research on punishment and its effects deals with variables measured contemporaneously. The current research, however, explores the long-term consequences of the use of punishment in the socialization of children. Certain hypotheses are suggested by the theory of behavior modeling as propounded by Bandura,¹ which lend themselves to longitudinal analysis. If children copy the behavior of significant models, then we would predict that parents' punitive behavior would be also imitated. Thus, the first hypothesis states that punitive parents will produce children who potentially will be punitive parents.

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If parental punishment is associated with aggression in childhood and if aggression is a stable characteristic, then a second hypothesis is that punitive parents will produce aggressive young adults.

SUBJECTS AND METHODS

The present study is one aspect of a larger longitudinal research project on aggressive behavior reported elsewhere.¹⁹ In the first wave, data were gathered during 1959 to 1960 from an entire third-grade population of 875 boys and girls. Ten years later, in the second wave termed the 13th grade, one year after high school, data were collected from 427 of these subjects (211 male subjects and 216 female subjects) who could be located.²⁰ In the third and 13th grades the modal ages of this sample of 427 were 8 and 19 years, respectively. The mean IQ of this sample in the third grade was 107.10 ± 13.66 . Based on fathers' occupation, the sample may be described as predominantly middle class. For the current study, depending on the particular variables, data requirements were fulfilled for numbers of subjects ranging from 135 to 187 of the 211 male subjects and from 146 to 186 of the 216 female subjects.

The basic research plan was longitudinal. The objective was to obtain data on each subject at two points in time separated by approximately ten years. Thus, in the first wave the subjects were third-grade school children and in the second wave they were young adults, one year out of high school. The procedures used in both waves were carefully designed and pretested to avoid introducing experimenter bias.^{21,22}

In the first wave, data were obtained on each subject from four independent sources: his classmates, his mother, his father, and himself. Classmates of each subject provided peer nominations on aggressive behavior. In this modified version of the "guess who" format developed by Hartshorne and May in 1929 each child could be nominated by every other child in his class on such aggression items as "Who pushes or shoves children?" or "Who starts a fight over nothing?" Various other measures were administered to all classrooms of children including an assessment of IQ.²³ Mothers and fathers, in a face-to-face situation were independently interviewed with an objective, pre-coded, child-rearing schedule yielding 286 items of information. It was from this schedule that data pertaining to parents' use of punishment as well as socio-cultural information was obtained. The punishment scale presented in Table 1 consisted of 24 items pertaining to parents' probable responses to four kinds of aggressive behavior manifested by their children: two dealing with aggression toward the parent, and two with aggression toward other children. Each punishment item was graded in intensity as low, medium, or high and the type of punishment included physical injury, love withdrawal, restraint, isolation, shame, threat, and corrective reasoning. An example of a high intensity punishment for rudeness to the parent is "spanking until he cries." For aggression toward another child, a low intensity example is "Tell him in a nice way to act differently." The derivation and psychometric properties of this scale are described elsewhere.²⁴

In the second wave, the subjects, now young adults, were reinterviewed and administered the identical 24-item punishment scale to which their parents responded more than a decade past. They were told to imagine that they had an 8-year old son or daughter (same sex) and then asked to indicate the punishment they would use for each offense. Thus, the subjects' own proclivity for the use of punishment as a child-rearing technique could be assessed by determining how he would punish a hypothetical child of his own for committing identical offenses to which his own parents responded for him. Once again, the subjects during the reinterview rendered peer nominations of their schoolmates' recent aggressive behavior by responding to items similar to those they responded to in the third grade. These items were worded in

the past tense because they pertained to behavior that occurred when the subjects were still together in high school classrooms. Also in the second wave, a self-report of subjects' antisocial behavior, physically aggressive behavior, and venting of hostility was obtained. Containing 32 items, the composite measure of these self-reports was termed Total Aggressive Habit. Examples of the items and format are presented in Table 2 and the development of the measure described elsewhere.^{20,25}

During the reinterview the Minnesota Multiphasic Personality Inventory (MMPI) was administered to all subjects.²⁶ This general test of psychopathology provides a measure of the propensity for antisocial aggressive behavior obtained from the sum of the *t*-scores on scale 4 (psychopathic deviate) and scale 9 (hypomania). High elevation on these scales has been consistently found among delinquent youths.^{23,26}

RESULTS

Because of the finding of sex differences in aggression in this and other studies, each hypothesis was tested separately for male subjects and female subjects. For male subjects, the first hypothesis that punitive parents produce children who, potentially, will also become punitive parents was initially substantiated when tested with bivariate statistics. Table 3 shows that when parental punishment is categorized into low, medium, and high levels as the independent variable and the 19-year-old male subject's mean potential punishment scores serve as the dependent variable, a one-way analysis of variance produces results that are statistically significant ($F [2/184] = 3.596, P = .03$). However, these significant bivariate relationships were tempered by introducing statistical controls for the effects of third variables. For example, it was also discovered that occupational status and educational level of the father were very significantly and inversely related to levels of punishment, i.e., low occupational status and low educational level were related to use of more severe punishment ($r = .26, P < .01; r = .35, P < .001$, respectively). Also, the subject's IQ at age 8 was significantly correlated inversely with parental punishment ($r = .19, P < .05$). The lower IQ child incurred more severe punishment for offenses. Consequently, it was decided to control for the possible effects of two of these variables, fathers' occupation—a good index of socioeconomic status—and subjects' IQ, on the longitudinal relationship between the two punishment variables. Serving as covariates in an analysis covariance design, occupation and IQ were controlled for the variance they contributed to the relationship. As a result of this analysis no main effects were found for parental punishment on their children's potential use of punishment ten years later. Thus, for male subjects, the hypothesis, after the effects of occupation and IQ were covaried out, was unsupported indicating that these two variables probably contributed the significant variance to the longitudinal relationship between the punishment variables.

For female subjects, no support for the first hypothesis was found at the bivariate level of analysis as seen in Table 4. But, similar to the male subjects, father's occupation was, marginally, negatively related to parental punishment [$F (2/154) = 2.861, P = .06$] as was subject's IQ [$F (2/175) = 4.974, P = .005$]. In addition, fathers' education was inversely and very significantly correlated with parental

Table 1.—Punishment Scale

Items	Mean Intensity Rating	Weighting
If _____ were rude to you, would you:		
Tell him: "I will give you something you like if you act differently"?	1.4	1
Wash out his mouth with soap?	7.7	3
Remind _____ of what others will think of him?	4.6	2
Say: "Get on that chair and don't move until you apologize"?	5.7	2
Tell _____ that young men (ladies) don't do this sort of thing?	3.4	1
Spank _____ until he cries?	7.8	3
If you saw _____ grab things from another child, would you:		
Tell him that young men (ladies) don't do this sort of thing?	3.4	1
Say: "I would like to be proud of you"?	3.5	1
Make _____ apologize?	5.8	2
Tell _____ you don't love him?	7.7	3
Point out how some close friends of his behave better than _____ does?	4.9	2
Not let him play with his friends for two days?	7.7	3
If _____ got very mad at you, would you:		
Get very angry at him?	4.4	2
Slap him in the face?	7.9	3
Say: "That isn't a nice thing to do"?	3.5	1
Tell _____ you don't love him?	7.7	3
Tell _____ in a nice way how to act differently?	2.8	1
Send him to another room where he would be alone and without toys?	6.0	2
If you heard _____ say mean things to another child, would you:		
Tell him in a nice way to act differently?	2.6	1
Say: "Get on that chair and don't move until you apologize"?	5.7	2
Not let _____ play with his friends for two days?	7.7	3
Point out how some close friends of his behave better than _____ does?	4.9	2
Wash out his mouth with soap?	7.7	3
Say: "I would like to be proud of you"?	3.5	1

Table 2.—Examples of Items Comprising the Measure of Total Aggressive Habit

Antisocial Behavior (26 Items)

Here are a number of things which you might do that could get you into trouble. Please tell us how many times you have done these things in the last three years. For each question, check the answer that is true.

In the last three years how many times have you done this?	No. Times					
	5 or More	4	3	2	1	0
Taken something not belonging to you worth under \$50?						
Went onto someone's land or into some house or building when you weren't supposed to be there?						
Hurt someone badly enough to need bandages or a doctor?						
Taken a car that didn't belong to someone in your family without permission of the owner?						

Physically Aggressive Behavior (3 Items)

Have you ever slapped or kicked another person? If yes: How many times would you estimate that you have done this?

0—no or not sure
 1—once
 2—twice
 3—three times
 4—four or more times
 98—not sure how many times

Venting of Hostility (3 Items)

Please check each statement that best describes how you act.

I get angry and smash things:
 4—almost always true
 3—often true
 2—sometimes true
 1—seldom true
 0—never true

Table 3.—Total Aggression Mean Scores for Male Subjects on Variables in the 13th Grade as a Function of Parental Punishment in the Third Grade

Punishment 3	Punishment 13			Habit		Aggression 13		Minnesota Multiphasic Personality Inventory 4 + 9	
	N	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Low	60	10.54	5.03	29.27	15.47	84.27	108.26	123.90	20.27
Medium	82	11.80	6.42	30.60*	14.63	73.58	87.21	123.11	19.28
High	45	13.73	7.18	36.91	15.26	94.40	102.28	124.40	19.15
Total	187	11.83	6.30	31.69	15.27	81.97	97.80	123.67	19.47
F		3.596		3.702		.683		.068	
P		.03		.03		.51		.93	

*N = 83.

Table 4.—Total Aggression Mean Scores for Female Subjects on Variables in the 13th Grade as a Function of Parental Punishment in the Third Grade

Punishment 3	Punishment 13			Habit		Aggression 13		Minnesota Multiphasic Personality Inventory 4 + 9	
	N	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Low	55	10.33	5.82	20.52*	9.50	26.89*	40.56	115.68*	16.40
Medium	86	12.16	5.72	21.48	10.66	24.84	29.20	119.37	19.88
High	43	12.23	7.93	21.14†	10.15	23.73†	48.63	122.74	16.62
Total	184	11.63	6.35	21.11	10.17	26.38	37.99	119.04	18.24
F		1.664		.150		.159		1.866	
P		.19		.86		.85		.16	

*N = 56.

†N = 44.

Table 5.—Multiple Regression Prediction From Childhood Variables to Adult Use of Punishment

Childhood Predictors	Prediction to Punishment			
	Male Subjects		Female Subjects	
	Standardized Coefficient, r	P	Standardized Coefficient, r	P
IQ	-.33	<.01	-.35	<.01
Peer-rated aggression	.18	<.01	-.13	NS
Fathers' education	.18	<.01	.02	NS
Punishment	.09	NS	.17	<.01
Mothers' education	-.03	NS
Fathers' occupation	-.02	NS	.08	NS
Multiple correlation	.41	<.01	.38	<.01

punishment ($r = .37, P < .001$). However, an analysis of covariance with fathers' occupation and subjects' IQ as the covariates produced no significant main effects for punishment.

Because of the equivocal nature of the results with respect to the first hypothesis and because third variables seemed to affect the longitudinal relationship (for male subjects) between the punishment variables, the question of what were the best predictors of the hypothetical use of punishment was studied. To do so, a step-wise multiple regression analysis for each sex was performed with subject's potential punishment scores as the dependent variable and child's IQ, child's third grade peer-nominated aggression, parents' punishment, parents' education, and fathers' occupation as the independent variables.

For male subjects, Table 5 shows that the best predictors of the severity of punishment across the ten-year span

were low IQ, high peer-nominated aggression in the third grade, and low education for fathers. The three corresponding standardized regression coefficients were all statistically significant and according to the multiple correlation account for 17% of the variance in predicting the potential use of punishment by these subjects.

For female subjects, two variables significantly predicted the severity of punishment these subjects would use, hypothetically, when they were young adults. These were low IQ and high parental punishment. Both standardized regression coefficients were statistically significant and accounted for 15% of the variance in the longitudinal relationship.

The second hypothesis, that punitive parents would produce aggressive young adults was supported in part for male subjects and not at all for female subjects. Examination of Table 3 shows that male subjects' Total Aggressive

Habit Scores increase concomitantly with the increase of parental use of punishment when these subjects were third graders. A one-way analysis of variance shows that these mean Total Aggressive-Habit Scores were significantly different [$F(2/185) = 3.702, P = .03$].

To investigate the effects of pertinent third variables on this longitudinal relationship, fathers' occupation and subjects' IQ again served as covariates in an analysis of covariance design. Significant main effects of parental punishment on Total Aggressive Habit occurred [$F(2/133) = 3.296, P = .04$] demonstrating that these third variables were not producing the relationship between parental punishment and later aggression. None of the other measures of aggressive behavior—peer nominations or the MMPI index of the propensity for antisocial behavior—was related, longitudinally to parental punishment.

COMMENT

The results show some modeling of the child on parents' punishing behavior especially as reflected in the bivariate analysis. But multivariate analyses show that the effects of aggression, fathers' education, and subjects' IQ are even stronger in predicting to the potential use of punishment, particularly for boys. Thus when conditions of lower IQ, high aggression, and low education for fathers coalesce at the time a boy is about 8 years old, this child is likely to be the one to use forms of more severe punishment in the socialization of his own children. The combination of events for 8-year-old girls that predict the potential use of harsher forms of punishment on their own children are lower IQ and the presence of punitive parents. Modeling of punitive parents' behavior rather than social class variables appears to play a stronger role for female subjects than for male subjects in determining the later use of punishment. To account for this difference, one plausible explanation is in terms of same-sex modeling. During early childhood development, mothers are the chief disciplinary agents especially for girls. Thus, a salient same-sex model of punishing behavior is provided for girls and not for boys. Also there is a fair amount of research to support the proposition that individuals tend to model after the same sex.³² The hypothesis that same-sex modeling has an effect for girls but not for boys is meaningful when viewed in the context of other research findings that boys consistently receive harsher and more physical punishment than girls.²⁷⁻²⁹ Such punishment also tends to be more vivid and the motor behavior of the punishing agent more expressive. But seemingly these factors are not as important for boys as a model of the same sex is for girls in predicting the use of harsher forms of punishment in raising their own children.

The second hypothesis that punishment during childhood has a long-term, positive association with the expression of aggressive behavior in young adulthood proved to have some substance for male subjects but none for female subjects. Inasmuch as the preponderance of studies indicate that boys, consistently, are more aggressive than girls^{13,27} the present finding falls into place with other research. Differential socialization of the sexes, part of which involves harsher punishment for boys may, in part, account for this difference. A moiety may also be attribut-

able to genetic and neurophysiological components. Boys are known to be at greater risk than girls for minimal brain dysfunction and hyperactivity. Frequently associated with aggressive behavior,^{30,31} these conditions are thought to be manifestations of the continuum of reproductive casualty.³² Some support for a neurophysiological contribution to aggressive behavior has been adduced for the subjects in the present study. Male subjects born of mothers who were older than 35 years at parturition were significantly more aggressive than males whose mothers were between the ages of 18 and 35 years old at parturition.³³ Competing explanations to account for the variance in aggressive behavior of their offspring are either insufficiency of the intrauterine environment of the older mothers or their different child-rearing practices. The fact that other birth defects such as cerebral palsy and Down's syndrome as well as perinatal complications are associated in the general population with children born of older mothers lends support to the neurophysiological hypothesis in the present instance, but, of course, does not preclude the effect of child rearing. Irrespective of the weight given to either of these explanations for male subjects, the opprobrium with which the overt expression of aggression by young adult women is viewed by society probably tends to suppress such behavior on their part.

The consistency with which a child's IQ entered into the longitudinal relationships between the punishment variables and aggression variables suggests that intelligence may be viewed as a condition that limits a child's ability to learn a variety of socially acceptable behaviors. Such a child's repertory of behavior may be constricted in comparison with that of a child of average or high intelligence. The low IQ child simply has more difficulty learning to behave in a nonaggressive manner, or in a nonpunitive manner in a hypothetical child-rearing situation. Such a child, due perhaps to limitations in verbal comprehension and concept formation, finds it easier to learn concrete and salient behaviors such as aggressiveness or punitiveness. The child with a higher IQ has more learning options available enabling him to learn a wider variety of social behaviors. The finding that an inverse relationship obtained between IQ at age 8 years and severity of parental punishment deserves further comment. Behaviors of low IQ children may in fact incur more severe forms of punishment from their parents because of the anger and frustration these behaviors engender. In this manner, children (boys) themselves may contribute to the punishment-aggression relationship that occurred in this study contemporaneously and longitudinally.

The fact that some of the hypothesized relationships did occur is noteworthy for two reasons: one is the span of time over which the variables of punishment and aggression were measured. The other is that the measurements across time were independent: in the first wave measures of the independent variables were obtained from parents and in the second wave measures of the dependent variables were obtained from their offspring.

At the bivariate level of statistical analysis, modeling, per se, has an apparent effect on later behaviors such as potential use of punishment. However, more sophisticated multivariate analysis illustrates that sociocultural

variables and IQ play an overriding role. Thus, these data demonstrate the necessity of analyzing complex variables such as punishment and its effects in a multivariate design to mitigate the likelihood of reaching spurious conclusions about child development when so many variables can contribute to the outcome over a ten-year period. Finally, interpretation of the results should be tempered by the

limitation that assessment was made of proclivities for the use of punishment and not of actual punishing behaviors.

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CORRECTION

Inaccurate Figures.—In the article titled "Increase in Suicide Attempts by Drug Ingestion," published in the October ARCHIVES (34:1165-1169, 1977), the fourth line of the second paragraph in the abstract should have read: "(1972) suicide attempt rate of 377/100,000. . . ." The 12th line of column two on page 1167 should have begun "2,752" instead of "2,754."