

The Relation of Prosocial Behavior to the Development of Aggression and Psychopathology

Leonard D. Eron and L. Rowell Huesmann

Department of Psychology, University of Illinois at Chicago

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The development of prosocial behavior is traced from middle childhood to adulthood in a 22-year longitudinal study of 800 children first seen at age 8 and is compared to the development of aggression over the same period. Prosocial behavior and aggression seem to represent opposite ends of a single dimension of behavior since they are consistently negatively related to each other and relate in opposite ways to correlated variables both synchronously and over time. Both are stable forms of behavior with good predictability over the time span studied and both are related to the quality of the parent-child relationship. The most important deterrent to the development of antisocial behavior and the encouragement of prosocial behavior is probably a close identification between the child and his/her parents.

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Key words: aggression, psychopathology, prosocial behavior, antisocial behavior

INTRODUCTION

Recently, it has been shown that as children grow older, at least from age 6 to age 10, in the United States they display more hostile aggression in their actions toward others [Eron et al, 1983; Hartup, 1974]. Fortunately for the welfare of the family and society at large, it has also been shown that over this same period, children increase in prosocial and altruistic behaviors such as sharing [Rushton and Weiner, 1975] and helping [Green and Schneider, 1974].

Elsewhere, we have argued that aggression is a trait [Eron, 1980; Huesmann et al, in press], showing consistency across situations and time. Also, it has been shown that at least one type of prosocial behavior, altruism, is similarly consistent and is thus also probably a trait [Rushton, 1981]. It is unlikely that both of these traits would coexist to any great degree in a single individual and indeed, at least one aspect of

Address reprint requests to Leonard D. Eron, Department of Psychology, University of Illinois at Chicago, Box 4348, Chicago, IL 60680.

prosocial behavior, empathy, has been demonstrated to be negatively correlated with aggression [Feshbach and Feshbach, 1969]. In our own research over the years, we have consistently found a moderate negative correlation between aggression and popularity and a positive correlation of the same order between aggression anxiety and popularity. We have interpreted this to mean that children who are concerned about interpersonal relations and well practiced in interpersonal skills tend not to engage in aggressive behaviors [Eron et al, 1974].

It is our contention that these two traits, aggression and prosocial behavior or altruism, represent opposite kinds of interpersonal problem-solving strategies which are learned very early in life. If a child learns one mode well, he or she does not tend to learn the other well. Thus, an important factor in the control of aggressive behavior is the learning of nonaggressive behaviors [Eron et al, 1971; Patterson, 1973]. If a child is to avoid aggressive behaviors and thus not develop the trait of aggression, he must learn nonaggressive behaviors to solve those problems that he might otherwise try to solve with aggressive behaviors. In previous papers [Eron et al, in press; Huesmann et al, in press] we have demonstrated that aggressive problem-solving strategies learned in early and middle childhood persist into adulthood. In the current article, we have attempted to trace the development of prosocial behavior in the same way from middle childhood to adulthood, and to show that a child's failure to learn prosocial behavior is predictive of later aggression.

The data are derived from a 22-year longitudinal study of approximately 800 children. These children constituted the entire third-grade population of a semirural county in New York State in 1960. At that time, when they were 8 years old, both they and their parents were interviewed. Then, ten years later when they were 19, some 427 were reinterviewed. Finally, in 1981 when their modal age was 30, over 400 were reinterviewed, and we obtained additional data from criminal justice and mental-health records on over 600 of the original subjects.

One of the pitfalls of longitudinal research conducted over many years is that when the research is begun, it is difficult to predict what the crucial variables will be over the course of the study. When we started our research in the development of aggression over 25 years ago, we proceeded from our understanding of learning theory and role theory [Eron et al, 1961] to select the variables we thought at that time were important and then devised measures of these variables. Thus, we turned our attention to such variables as instigation to aggressive behavior and the reinforcement that followed once the aggression was elicited. We were also interested in the models of behavior furnished by significant others. However, we neglected one important set of variables in our theorizing and, therefore, they were largely omitted when we developed our initial measures. These are the prosocial behaviors—those behaviors which could replace aggressive behavior as a general problem-solving strategy in a child's repertoire of responses. Further, in our 1960 parent interview, we concentrated on those behaviors of parents which we theorized would have an effect on subsequent aggressive behavior of their children, and neglected those antecedents presumed to be conducive to the development of prosocial behavior. However, in the child interview we measured two constructs which seem to be indirect indicators of prosocial behavior. These were the subjects' popularity with their peers and their aggression anxiety [Eron et al, 1971]. In a factor analysis, these two measures loaded heavily on the same factor. Both of these measures indicate concern about interpersonal relations and a reluctance to harm others. For example,

the aggression anxiety scale included peer nominations for the question, "who says 'excuse me' even if they have not done anything bad" while the popularity scale included nominations on "who would you like to sit next to in class?"

At the time of the first followup, when the subjects were 19 years old, peer nominations of leadership were included as an indication of social attainment. Social attainment can be viewed as an outcome of prosocial behavior.

In the most recent followup, when the subjects were 30 years old, we could not obtain peer-nominations either of aggression or prosocial behaviors. However, we collected data on a number of variables which can be viewed either as indicators of current prosocial behavior, or as indicators of aggressive behavior, or as outcomes or correlates of such behavior—as well as data on aggressive behavior. These included the subject's self- and spouse-rated aggression, the subject's social failure or success as measured by the Ullman and Giovanonni scale of risk for schizophrenia [1964], the subject's assertiveness and social skills, marital status, use of alcohol and drugs, occupational and educational attainment, frequency of television viewing, criminal justice, traffic and mental health records mentioned previously, Minnesota Multiphasic Personality Inventory (MMPI) profiles, Beck depression scores, and ego development as measured by the Loevinger scale [Loevinger and Wessler, 1970]. Thus, we can now examine the relations of the earliest manifestations of prosocial behavior in our subjects to the appearance of a similar class of behaviors ten and 22 years later as well as to aggressive behavior and psychopathology. Further, we are able to present data showing the relations of certain child-rearing practices of parents at the time their children were 8 years old to both the prosocial and aggressive behavior of these children at ages 19 and 30.

RESULTS

In Table I, correlations are shown between early and later aggression and prosocial behavior. It is apparent from this table that aggression and prosocial behavior are uniformly negatively correlated. Prosocial behavior at age 8 predicts prosocial behavior ten and 22 years later as measured by occupational and educational status. It predicts negatively to social failure as measured by the Ullman-Giovanonni scale and also predicts negatively to aggression and psychopathological behavior. Aggression at age 8, on the other hand, predicts social failure, psychopathology, and aggression ten and 22 years later and predicts negatively to prosocial behavior and social attainment. Thus, prosocial behavior and aggression seem to represent opposite ends of a single dimension of behavior. A factor analysis of all the variables measured during the three different phases of the longitudinal investigation does indeed reveal a single dimension explaining 13% of the variance and on which peer-nominated aggression at ages 8 and 19 and criminal behavior at age 30 load in one direction while peer-nominated prosocial behavior at ages 8 and 19 and social, educational, and occupational attainment at age 30 load in the opposite direction.

Considering the length of time between the first and last measurements and the difference in measurement operations, the stability of both prosocial and aggressive behavior must be considered quite high. In a recent paper [Huesmann et al, in press] we have estimated the stability of aggression to be about .50 for boys and .35 for girls. It seems likely that the stability of prosocial behavior is very comparable, reinforcing our view that these behaviors, aggression and prosocial behavior, repre-

TABLE I. Correlations Between Age 8 Aggression and Prosocial Behaviors and Measures at Age 19 and 30

	Age 8 measures		
	Aggression	Prosocial behavior	
	peer-nominated aggression	Aggression-anxiety	Popularity
AGE 8			
Aggression	1.00	-.36***	-.29***
Agg-anxiety	-.36***	1.000	.63***
Popularity	-.29***	.63***	1.000
AGE 19			
Aggression	.42***	-.22***	-.12*
Agg-anxiety	-.26***	.29***	.11
Popularity	-.16**	.18*	.35***
Leadership	-.16**	.32***	.40***
AGE 30			
MMPI F + 4 + 9	.25***	-.21***	-.15**
Self-rating physical-agg	.17***	-.14**	-.16***
Punishment of child	.24**	-.14+	-.15+
Criminal justice convictions	.21***	-.11**	-.10*
Moving traffic violations	.20***	-.12**	-.10*
Social failure/success	.18***	-.12*	-.21***
Occupational status [†]	-.16**	—	.12**
Educational status	-.24***	.22***	.20***
Frequency of TV viewing	.13**	-.20**	-.14+
Alcohol use frequency	.19**	-.11*	—
Beck depression	.13**	—	—
MMPI-TET ^{††}	.20***	-.14**	-.11*
Mental hospital days	.12**	—	—
Ego development	-.20***	.28***	.21***

[†]Because occupational status was scored with lower status indicated by higher numbers, the signs of the original correlations were reversed for this table.

^{††}Sum of scores on four psychotic scales (psychotic tetrad).

+ $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

sent opposite ends of a characteristic trait that develops early in life and persists into adulthood.

In order to separate the effects of early aggression and early prosocial behavior on later manifestations of these behaviors,* a number of multiple regressions were performed. These are shown in Table II. In each of the multiple regressions, an age 30 behavior was predicted from both early aggression and early prosocial behavior. For both males and females, it is apparent that early prosocial behavior is a significant predictor of ego development independent of early aggression. Early aggression, on the other hand, relates independently only marginally and negatively to later ego development for both males and females. However, the results for the other age 30 dependent measures differ for males and females. For girls, early aggression is the best negative predictor of later educational attainment, and the best positive predictor of social failure, and aggression regardless of early prosocial behavior. For boys, on

*Early prosocial behavior in these analyses was represented by the sum of standardized age 8 popularity and aggression anxiety scores.

TABLE II. Multiple Regressions Predicting Age 30 Aggression, Social Failure, Educational Attainment, and Ego Development From Age 8 Aggression and Prosocial Behavior

Dependent variables	Predictor variables	Standardized regression coefficients	
		Boys	Girls
Age 30 aggression	Age 8 aggression	.21**	.14*
	Age 8 prosocial	-.26***	-.03
Age 30 social failure	Age 8 aggression	.10	.23***
	Age 8 prosocial	-.15+	-.12+
Age 30 educational attainment	Age 8 aggression	-.16*	-.22***
	Age 8 prosocial	.28***	.08
Age 30 ego development	Age 8 aggression	-.12	-.11
	Age 8 prosocial	.17*	.28***

+p < .10, *p < .05, **p < .01, ***p < .001.

the other hand, early low prosocial behavior is the best predictor of the same variables regardless of early aggression.

A possible explanation for this discrepancy is that society is more tolerant of aggressive behavior in young males than in young females. Thus, when a girl responds aggressively, she is marked as deviant, and it is more likely to interfere with educational and social attainment. For boys, who are characteristically more aggressive, however, prosocial behavior that can mitigate the effects of aggression becomes the more important predictor of educational and social success regardless of early aggression. Unfortunately, since we had no early measure of ego development, it is difficult to invoke any causal relation between early prosocial behavior and later ego development. Initially strong ego development might play an important role in early prosocial behavior or early social success might lead to a higher level of ego development.

The direct relation between early prosocial behavior and age 30 behavior is illustrated by the set of bar graphs in Figures 1-3. For these graphs, the 8-year-old subjects were divided into three groups on the basis of their scores on the prosocial behavior factor: upper, 25%; middle, 50%; and lower, 25%.

We have seen, thus far, that early prosocial behavior on the part of the child is important for later social attainment. Let us now examine which parent variables and which other child characteristics are also predictive of social attainment in our subjects as they move into adulthood.

As was indicated in the volume summarizing the results obtained at age 19 [Lefkowitz et al, 1977], the best predictors to leadership at age 19 for both males and females were age 8 IQ, age 8 popularity, and how often the parents attended church at that time. For boys only, disparagement by parents at age 8 and extent of parental disharmony predicted negatively to social attainment at age 19 while social mobility aspirations of the parent predicted positively to leadership at age 19. Further, the more recently a boy's family had immigrated to the United States, the less popular was he. This was not so for girls. For girls, the higher the parents' education, the more likely she was to be a leader at 19 and the more likely she was to be popular. Similarly, the more often the parents reported guilty behavior in their daughters at age 8, and the less harshly they punished them, the more popular they were apt to be at 19. On the other hand, the more hours they spent watching television at age 8, the less popular they were at 19 and the less apt to be rated as a leader.

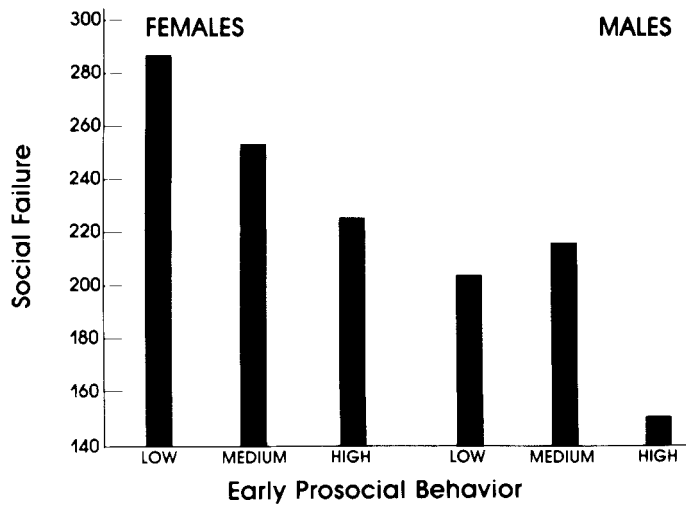


Fig. 1. Relation of prosocial behavior at age 8 to social failure at age 30.

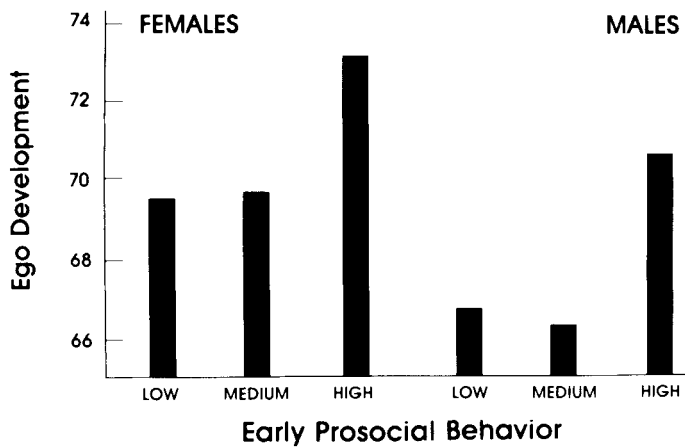


Fig. 2. Relation of prosocial behavior at age 8 to ego development at age 30.

The relations between these early characteristics and social attainment at age 30 are presented in Table III. The early predictors are the child's IQ and early prosocial behavior, the parents' disparagement of the child, and their authoritarianism and identification, which is a measure derived from both parent and child. All of these predictors except IQ represent combined scores on two scales. The two scales were those which loaded highest on each of the four factors derived by factor analysis. Prosocial behavior, as indicated previously, is a composite of aggression anxiety and popularity; parental disparagement is a composite of rejection of child and punishment of child by shaming in front of others; authoritarianism is a composite of the F scale and acquiescence. Identification is a composite of the child's identification with the mother plus the father and represents the sum of discrepancy scores between how the child rates him or herself on a series of adjectives describing expressive behavior and how the mother and father rate him or herself on these same behaviors.

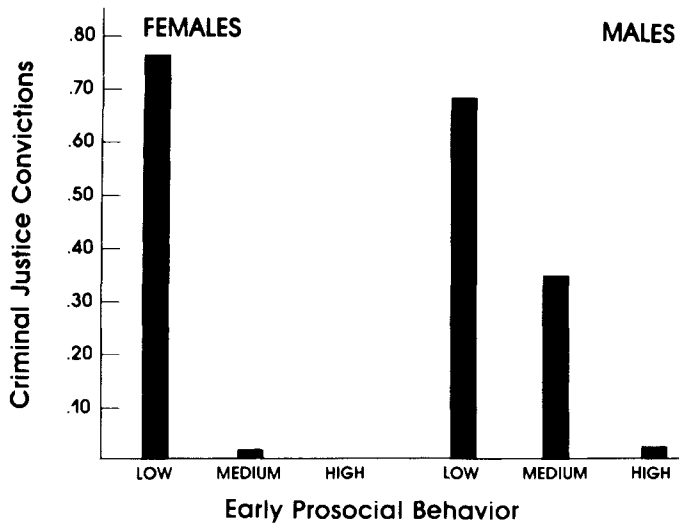


Fig. 3. Relation of prosocial behavior at age 8 to number of criminal convictions by age 30.

The pattern of correlations is about identical for males and females. In the child, early prosocial behavior and early IQ seem to be the most important predictors of later social success or failure (as measured by the Ullman-Giovanonni risk scale), educational attainment, ego development as measured by the Loevinger scale, and social isolation as measured by tv Frequency. In the parents, authoritarianism predicts all but social failure while parental disparagement of the child is weakly predictive of poor social attainment, especially for girls. But perhaps the most interesting predictor of social attainment is the extent to which the child identifies with either or both parents. This variable is related to every measure of social attainment in both males and females. The more a child described his expressive behavior in the same way as his or her parents described their own behavior the better the child's prognosis for social and educational attainment. Of course, early IQ is also a very good predictor to the measures of social attainment. However, the multiple regressions represented in Table IV indicate that the contribution of low identification to social failure and lack of educational attainment is independent of IQ, especially for boys. Also for boys, it seems that parent authoritarianism is an independent negative contributor to ego development and a positive contributor to TV frequency, also independent of IQ. The relations between discrepancy in identification at age 8 and subsequent behavior and accomplishment when the child reaches adulthood are illustrated by bar graphs in Figures 4-6.

To summarize, we have shown that prosocial behavior in children is related to the appearance of similar kinds of behavior when the children grow to adulthood. Also, youngsters who do not learn such behavior early in life tend to engage in aggressive, antisocial behavior as adults. Further, these two opposing tendencies to behavior in either prosocial or antisocial ways are related to the quality of the parent-child relationship. The more a youngster is disparaged by the parents, ie, the more critical the parent is of the child's behavior and accomplishments and the more the child is shamed and punished in public, the more likely he or she is to be aggressive as an adult. Similarly, the more authoritarian the parents' attitudes, the more aggressive the child will be when an adult and the less likely to achieve prosocial goals. The most

TABLE III. Correlation for Boys and Girls of Age 30 Social Attainment With Age 8 Parent and Child Predictor Variables

Age 8 predictors	Age 30 social attainment									
	Girls					Boys				
	Social failure	Educational attainment	Ego development	TV frequency	TV frequency	Social failure	Educational attainment	Ego development	Ego development	TV frequency
Parental authoritarianism	—	-.28***	-.19*	.20*	.20*	—	-.19*	-.26***	-.26***	.28***
Parental disparagement	.14+	-.12	-.14*	.15*	.15*	—	-.11	—	—	.13+
Identification of child and parent	-.17*	.34***	.20*	-.18*	-.18*	-.21**	.34***	.15+	.15+	-.19*
Early prosocial behavior	-.20**	.16*	.33***	—	—	-.18**	.32***	.19**	.19**	-.19**
Early IQ	-.27***	.29***	.24***	-.25***	-.25***	-.23***	.33***	.30***	.30***	-.23**

+p < .10, *p < .05, **p < .01, ***p < .001.

TABLE IV. Multiple Regressions Predicting Age 30 Prosocial Variables From Early Parent and Child Variables

Dependent variables	Predictor variables	Standardized regression coefficients	
		Boys	Girls
Educational attainment	Prosocial	.16*	—
	IQ	.14+	.21*
	Low identification	-.24**	-.25**
	Authoritarianism	—	-.22**
Ego development	Prosocial	—	.26**
	IQ	—	—
	Low identification	—	—
	Authoritarianism	-.18*	—
Social failure	Prosocial	—	—
	IQ	-.16+	-.18*
	Low identification	.17*	—
	Authoritarianism	—	—
TV frequency	Prosocial	—	—
	IQ	—	-.18*
	Low identification	—	—
	Authoritarianism	.26**	—

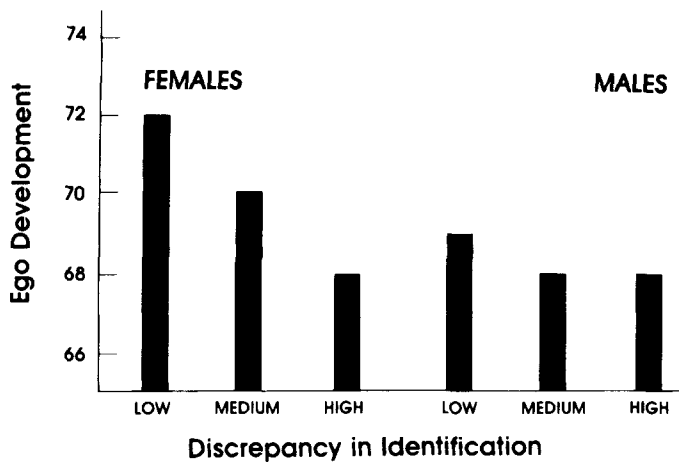


Fig. 4. Relation of discrepancy in identification to ego development at age 30.

important deterrent to the development of antisocial behavior and the encouragement of prosocial behavior seems to be a close identification between the child and his or her parents.

Thus, prosocial behavior, like aggressive behavior, is learned early in life, very likely in the context of family interactions and persists, traitlike, into adulthood.

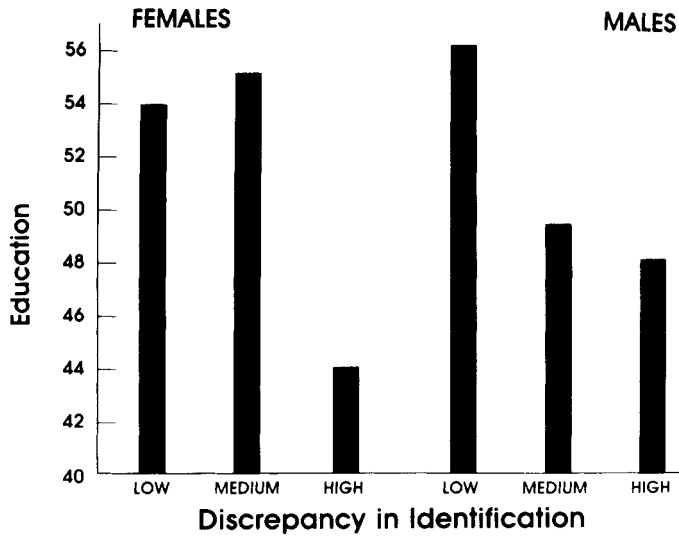


Fig. 5. Relation of discrepancy in identification to attained education by age 30.

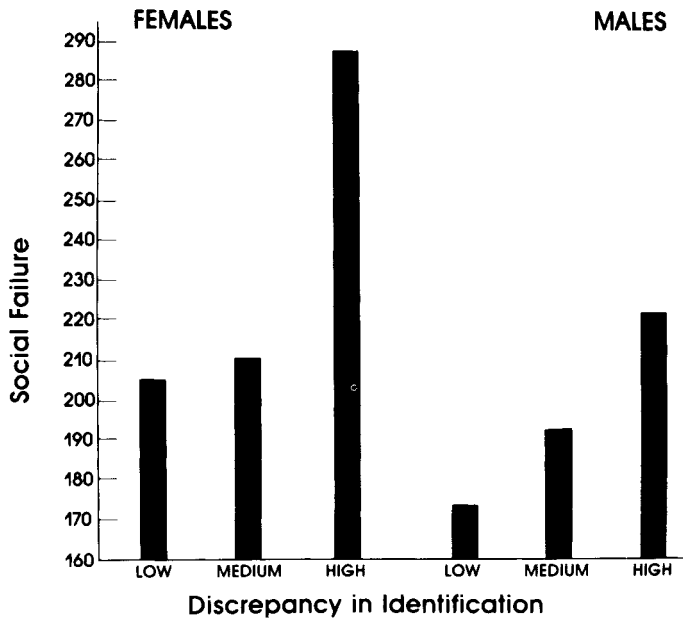


Fig. 6. Relation of discrepancy in identification to social failure at age 30.

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