Father–Child Transmission of Antisocial Behavior: The Moderating Role of Father's Presence in the Home

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ABSTRACT

Objective: To demonstrate an environmental effect of being raised by an antisocial father and to test whether the transmission of antisocial behavior from father to child is moderated by the father's presence in the home. **Method:** A community sample of male and female 11- and 17-year-old twins and their biological parents participating in the Minnesota Twin Family Study was used. A series of hierarchical linear regression models was used to examine the relationship between father antisociality and his children's externalizing psychopathology and to determine whether the father's time spent in the home moderated this relationship. Models controlled for the child's sex. **Results:** A significant main effect of both father's antisociality and father's presence on the children's externalizing psychopathology was found: Children born to antisocial fathers evidenced higher rates of externalizing behavior, and children raised without their biological father in the home exhibited more externalizing behaviors. The interaction was also significant such that the association between father and child antisociality was stronger when the father was present for a longer period of the child's life. Furthermore, when fathers show high levels of antisociality, fathers' presence appears to have deleterious rather than beneficial effects on child behavior. **Conclusions:** The present results suggest the transmission of antisociality from father to child is at least partially environmentally moderated. *J. Am. Acad. Child Adolesc. Psychiatry,* 2008;47(4):406–415. **Key Words:** father, antisocial, twin study, interaction, parent–child transmission.

Antisocial behavior tends to aggregate within families. In fact, aside from previous antisocial behavior, one of the strongest risk factors for antisocial behavior is a family history of antisociality.[1] Children born to antisocial men are more than two times as likely to develop conduct disorder (CD) and to engage in adult antisocial behaviors as are children born to nonantisocial men.[2] Although antisociality is under the influence of both genes and the environment,[3] some reports[4] suggest that parents play no role beyond providing genetic risk. Our aim in this article is to investigate the effect of one environmental influence in particular, father's presence in the home, on the child's antisocial behaviors and to determine whether the father's presence may moderate the relationship between father and child antisociality.

The familial aggregation of antisocial behavior has been well established. Family designs have shown that in both childhood[5,6] and adolescence,[7] boys with CD are more likely to have parents with antisocial personality disorder (ASPD) than boys without CD. Conversely, the offspring of antisocial parents meet criteria for a greater number of CD symptoms[8] and are more likely to receive a diagnosis of ASPD,[9] CD, oppositional defiant disorder (ODD), and adult antisocial behavior (AAB; the adult component of ASPD) than children of nonantisocial parents.[2] These studies clearly demonstrate the transmission of antisocial behavior from parent to child. However, what they are unable to show is the nature of the transmission. Because the parents in these studies provide their children with both their

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genetic makeup and their environment, they do not disentangle the genetic and environmental effects.

Twin studies are consistent in demonstrating both genetic and shared environmental influences on child antisociality.[3,10] A review of twin and adoption studies[3] revealed that, on average, 32% of the variance in antisocial behaviors was due to additive genetic effects and 16% was due to shared environmental effects (i.e., environmental influences that make siblings in the same family more similar). Although there are shared environmental influences on antisocial behavior, this does not necessarily mean that the presence of an antisocial parent is exerting an environmental effect on the child's risk of antisociality.

Adoption studies have demonstrated that at least some of the transmission of antisocial behavior from parent to child is due to genetic mechanisms. Cadoret and Cain[11] found that children born to antisocial parents and adopted at birth exhibited higher rates of antisocial behavior than did adopted children born to nonantisocial biological parents. Because these adopted children were not raised by their antisocial biological parents, the transmission of risk was deemed to be genetic. Other adoption studies that have additionally looked at antisociality in the adoptive family have shown mixed results. Although Cadoret et al.[12] found that male adopted individuals raised by antisocial adoptive families exhibited higher rates of antisocial behavior than those adopted individuals raised by nonantisocial adoptive families, Mednick et al.[13] did not find a similarly significant relationship between adoptive parent criminality and adoptee criminality. Both studies did find a significant relationship between biological family antisociality and adoptee antisociality. Thus, although some adoption studies suggest that part of the transmission of antisocial behavior from generation to generation may be environmentally mediated, other studies fail to find support for environmental mediation.

The present family study takes a different tack to demonstrate an environmental effect by testing whether the amount of time a father spends in the home (a proxy measure for the amount of father–child contact) moderates the relationship between father and child antisociality. To date, only one other study has investigated such a relationship. Jaffee et al.[14] made use of an epidemiological sample of 5-year-old twins and their parents and investigated whether paternal antisociality moderated the relationship between the father's presence and the child's behavioral problems. They found that whereas 5-year-old children with nonantisocial fathers exhibited fewer behavioral problems when their fathers were present rather than absent, children with highly antisocial fathers engaged in more problem behaviors when their antisocial fathers were present rather than absent. Thus, this study suggests that children with antisocial fathers who are present in the home received both genetic and environmental influences, increasing their risk for early antisocial behavior.

The present study attempted to extend this finding in two separate older samples of children bracketing early and late adolescence. Antisociality not only manifests itself differently at different ages but it also can be influenced by different factors, to varying extents at different ages. Thus, the aim of the present study was to demonstrate whether father's presence moderated the relationship between father and child antisociality at two different developmental time points. First, we hypothesized that the less the father was present in the home, the more behavioral problems the children would exhibit. Second, the more antisocial the father was, the more the children were expected to exhibit behavioral problems. Finally, because we anticipate that fathers who have a greater presence in their children's lives will have more opportunities to have environmental effects on their children's behaviors than fathers who are not as involved, we anticipated an interaction between the father's presence and his antisociality such that the relationship between father and child antisociality would be stronger when the father was both antisocial and present in the home.

METHOD

Participants

Our sample was drawn from 1,626 families participating in the Minnesota Twin Family Study (MTFS). The MTFS is a longitudinal, population-based study of twins and their parents living in Minnesota. The twins were identified through birth records and located through the use of public databases. Few differences between participating and nonparticipating families exist, and those that do were small. The sample is primarily white (98.5%) and is representative of the population of Minnesota during the years in which the twins were born. There were two age cohorts. The younger cohort was first assessed at 11 years of age, and the older cohort was first assessed at 17 years of age. A more detailed account of the recruitment and the design of the MTFS can be found elsewhere.[15]

The families of the younger cohort comprised 732 same-sex twin pairs (49.4% male; 64% monozygotic) and their biological parents. Families were excluded from the present analyses if the father had sole custody of the children, one of the parents was widowed, paternity was uncertain, or diagnostic data were incomplete. In 589 (80.5%) of the families, the biological parents were married to each