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The Transmission of Psychopathology From Parents to Offspring: Development and Treatment in Context*

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In their research report, Loukas et al. report that parental alcoholism is prognostic of childhood behavior problems, both directly, through genetic and modeling effects, and indirectly, through parental distress and physical problems. They hypothesized that the heightened rate of behavior problems in young children of alcoholic could be traced to the combination of negative interactions with the alcoholic parent (e.g., abuse, neglect) and the generalized stress involved in living with an alcoholic (e.g., chaotic and unpredictable family climate). Loukas et al. point out that the negativity in alcoholic families is likely to be exacerbated by heightened levels of parental distress and by a lack of closeness and "quality time" between parents and children. As a result, children may somehow "act out" their parents' distress in addition to acting out the dysfunction inherent in an alcoholic family.

Loukas et al. found that alcoholic fathers with comorbid antisocial personality disorder tended to have sons with the most severe conduct problems, replicating an earlier finding obtained by the same research group (Puttler, Zuckier, Fitzgerald, & Bingham, 1998). They argue that this finding may be due to the personal and family antecedents and correlates of antisocial personality disorder, particularly a history of psychiatric problems and childhood conduct disorder, heightened family stress, less "quality time" spent between parents and children, and a chaotic family environment. These factors have all been empirically found to contribute to the genesis of child behavior problems.

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Negative psychiatric histories and conduct problems have been shown to be transmitted familyately (Merikangas & Avenevoli, 2000; Taylor & Carey, 1998). Family stress is a significant predictor of conduct problems in childhood (Kagan & Schlossberg, 1989; Keiley, Bates, Dodge, & Pettit, 2000). The amount of time parents and children spend together (Griffin, Borvin, Scheier, Diaz, & Miller, 2000) and the quality of parent-child communication (Harnish, Dodge, Valente, & Conduct Problems Prevention Research Group, 1995) are protective factors against child behavior problems. Finally, a chaotic family environment is often implicated in the onset of conduct problems (Patterson, 1982; Patterson, Bank, & Stoolmiller, 1990; Weiss, Dodge, Bates, & Pettit, 1992). The risk for problem behaviors is further exacerbated when these risk factors act in combination with one another (Deater-Deckard, Dodge, Bates, & Pettit, 1998), especially when risk factors from different contexts act in concert with one another (Dishion, Capaldi, & Yoerger, 1999).

The findings reported by Loukas et al. are highly consistent with the extant literature on parental substance abuse, family dysfunction, and childhood conduct problems. The associations among parental substance abuse, family chaos, and childhood conduct disorder have been reported in the literatures on parent-child, drug abuse, behavior problems, and psychiatric disorders (e.g., Bukstein, 1995, 1997; Conduct Problems Prevention Research Group, 2000; Dishion et al., 1999; Loebner, Green, Lahey, Frick, & McBurnett, 2000; Pettit, Bates, & Dodge, 1997; Taylor & Carey, 1998). The purpose of this companion paper is to trace some of the antecedents, causes, and treatment implications of the findings of Loukas et al. As treatment- and prevention-oriented researchers, we are particularly interested in the developmental psychopathology of childhood behavior problems, because understanding the etiology and developmental course of any disorder is key to preventing or treating it (cf. Cicchetti, 1984, 1993; Liddle & Hogg, 2000). Moreover, as we will discuss further, childhood conduct disorder occupies a pivotal position in the developmental sequence of behavior problems. It is often the result of the interaction of difficult child temperament with harsh and coercive parenting (Bates, Pettit, Dodge, & Ridge, 1998; Conduct Problems Prevention Research Group; Shaw & Bell, 1993), and it is also a significant antecedent to later and more severe behavior problems, such as substance abuse and antisocial personality disorder (Crowley & Riggs, 1993; Gresham, Lane, & Lambroz, 2000; Myers, Stewart, & Brown, 1998). The appearance of conduct disorder in childhood is a clear sign that development has gone off track, but it also presents a unique opportunity to intervene and treat the problem before it leads to more severe disturbances.

The Developmental Psychopathology of Childhood Conduct Problems

Loukas et al. report significant associations between parental alcoholism and offspring conduct problems. This is consistent with existing literature: most psychological and psychiatric problems, including substance abuse disorders and conduct disturbances, tend to have their origins in the family (Farane, Biederman, Mennin, Russell, & Tsuang, 1998; Loebner, 1988; Patterson, DeBaryshe, & Ramsey, 1989). This is not surprising, given that the family is both the source of individuals' genetic material and the context in which they spend the majority of their early years. Children raised by psychiatrically disordered parents are exposed to two discrete and convergent sources of risk, namely genetic and environmental risk clusters (Tarter & Vanyukov, 1994; Zucker, 1994; Zucker, Fitzgerald, & Moses, 1995). Furthermore, individuals exposed to both sets of risk factors are more likely to develop psychiatric disorders themselves than are those exposed to only genetic or only environmental hazards (Cadoret, Leve, & Devoe, 1997; Ge et al., 1996; Merikangas & Avenevoli, 2000; Roth & Finley, 1998). Generally speaking, the more risk factors present with respect to a given individual, the more likely that individual is to manifest the disorder in question (Deater-Deckard et al., 1998; Dishion et al., 1999).

From a treatment- and prevention-based perspective, this environmental and psychological focus is fundamental to successfully averting and ameliorating disordered outcomes (Hogue & Liddle, 1999). If a disorder continues to manifest itself only as long as the underlying environmental and psychological causes remain, then removing those causes, or helping to protect against their effects, should lead to reductions in the disorder itself (Rutter, 2000). That is, by focusing on the conditions that led to the onset of a given disorder, it is usually possible to reverse the course of the problematic outcome.

The case of childhood behavior problems provides a useful illustration of these concepts. Loukas et al. make the case that the behavior problems in the boys they studied are directly attributable to the direct and indirect effects of being raised by an alcoholic parent. Evidence from the literature both supports and extends their conclusion. Although genetic risks may predispose the child toward problem behaviors (Taylor & Carey, 1998), conduct problems tend to be brought about by the interaction of difficult child temperament with poor and unskilled parenting (Bates et al., 1998; Conduct Problems Prevention Research Group, 2000). Specifically, when difficult children interact with harsh and intolerant parents, a weak and avoidant attachment bond tends to be formed (Kobak, 1999; Moffitt, 1993; Shaw, Bell, & Gilliom, 2000; Tarter et al., 1999). Substance-abusing parents are especially prone to using harsh and coercive disciplinary techniques with their children (Dishion et al., 1999; Merikangas, Dierker, & Fenton, 1998), and children of substance-abusing parents are more likely to manifest temperamental difficulty than are those of non—substance-abusing parents (Tabman & Windle, 1995). The harsh and inconsistent parenting often associated with parental drug and alcohol addiction makes it more likely that children and adolescents with substance-abusing parents will be prone to behavior problems.

The factors predisposing the offspring of alcoholic parents to behavior problems in the study of Loukas et al. extend beyond the early interaction of difficult temperament with harsh parenting. It has been suggested that, although early experiences shape the foundation of a child's personality, continuing interactions with parents play an even stronger role in predisposing youth toward health or dysfunction (Loebner, Drinkwater, et al., 2000; Loebner & Strouthamer-Loebner, 1998; Rutter & Stolfe, 2000). In the case of children already predisposed toward behavior problems, the interaction between difficult temperament and coercive parenting is likely to lead to mutual avoidance between parent and child (Shaw & Bell, 1993). This mutual avoidance tends to manifest itself in the form of a weak or avoidant attachment relationship (Allen, Moore, & Kuperminc, 1997). In the absence of a significant affective bond between parent and child, the child may ignore, or respond aggressively to, parental demands (Maccoby, 1992; Patterson et al., 1990; Shaw et al., 2000), and the amount of "quality time" the child spends with his or her parents will be minimal (Hawkins, Lishner, Catalano, & Howard, 1986).
Continued harsh parenting is apt to lead to escalations in the child's behavior problems (Patterson, 1982; Patterson et al., 1989), at which point the conduct problems are likely to generalize to the school environment (Nix et al., 1999). In essence, then, as long as mutually aversive parent-child interactions persist, the potential remains for child behavior problems to continue escalating and generalizing beyond the home environment.

Generally speaking, the findings reported by Loukas et al. serve to explicate the early stages and forms of childhood conduct difficulties. The antisocial alcoholic parent is likely to be intolerant and inconsistent (Jacob, Krain, & Leonard, 1991) and to spend relatively little quality time with his or her child (Steinglass, Bennett, Wolin, & Reiss, 1987). Because of factors related to the genetic transmission of antisocial tendencies, children of antisocially oriented parents are likely to manifest temperamentally resistance and difficulty (Gresham et al., 2000; Tarter & Vanyukov, 1994). The interaction between the intolerance and inconsistency associated with parental antisociality and the difficult temperaments often observed in children of antisocial parents leads to mutual avoidance between parents and children, poor attachment relationships, and a lack of quality time spent as a family (Bates et al., 1998; Shaw & Bell, 1993; Shaw et al., 2000). Parents who are poorly attached to their children are unlikely to monitor them adequately (Liddle, Rowe, Dakof, & Lyke, 1998; Vitaro, Brendgen, & Tremblay, 2000), thereby clearing the way for the child's antisocial tendencies to be expressed without much constraint or interference from the parent.

**Long-Term Implications of Childhood Antisocial Tendencies**

The long-term implications of the findings of Loukas et al. warrant explanation. In the context of continuing family dysfunction, the behavior problems reported in their paper have the potential to worsen significantly over the course of childhood and adolescence (Conduct Problems Prevention Research Group, 2000; Pettit et al., 1997). This is especially true in youngsters who may have genetic tendencies toward antisocial behavior and who are reared in destructive environments (Bucholz, Hesselbrock, Heath, Kramer, & Schuckit, 2000; Ge et al., 1996; Taylor & Carey, 1998). The continuing presence of an antisocial environment increases the likelihood that the child will manifest more and more severe degrees of negative behavior (Reese, Vera, Simon, & Ikeda, 2000; Rutter, 2000). The same maladaptive environmental factors that contribute to parental alcoholism and antisocial personality disorder are also likely to predispose the child toward conduct problems (Griffin et al., 2000; Hogue & Liddle, 1999). That is, the coexistence of parental alcoholism and antisocial tendencies with conduct difficulties is due both to the effects of alcoholism and antisociality on parenting abilities and to the pathogenic environments that give rise to parental dysfunction, as Loukas et al. reported in their paper.

If left untreated, antisocial behavior in childhood is unlikely to remit spontaneously and is prognostic of a number of long-term negative developmental outcomes (Dishion, French, & Patterson, 1995; Dishion & Patterson, 1997; Loeber & Stouthamer-Looee, 1998; Patterson & Dishion, 1988). These include continued aggressive and socially destructive behavior in childhood (Sanford et al., 1999), substance abuse (Clark, Parker, & Lynch, 1999; Myers et al., 1998; Steinberg, 1987) and gang membership (Loeber, Gordon, Loeber, Stouthamer-Looee, & Farrington, 1999) in adolescence, and antisocial personality disorder in both adolescence (Loeber, Green, et al., 2000; Rutter, Cluio, & Conger, 2000) and adulthood (Bucholz et al., 2000). Just as the environmental factors contributing to parental alcoholism and antisocial personality disorder predispose children to conduct problems, the continuing presence of these maladaptive ecological conditions is likely to promote further escalation of problem behaviors as the child matures.

The findings of Loukas et al. underscore the importance of ecological and contextual factors in the genesis and maintenance of health or dysfunction. Generally speaking, in that study, the more severe the pathogenic ecological factors were for a given family, the greater the number and severity of parental and child psychopathologies reported. In particular, Loukas et al. noted that antisocial alcoholics, whose children tended to manifest the most severe conduct problems, tend to have experienced the greatest amount of external stress and pressure in their lives. From a risk and protective factor perspective, it is well known that the more risk factors that exist in an individual's or family's ecology, the more likely disordered development is to appear, and the more dysfunctional the developmental outcomes are likely to be (Deater-Deckard et al., 1998; Hawkins, Catalano, & Miller, 1992). The fact that antisocial alcoholics were associated with the highest levels of offspring behavior problems is wholly consistent with an ecological risk factor viewpoint. The risk factors affect the entire family to a relatively equal extent.

Adopting an ecological focus also serves to remove much of the blame for the child's conduct problems from the family (Liddle, 1999; Liddle & Dakof, 1995; Reese et al., 2000). Because the family is subject to the same ecological influences as are its members, it is unlikely that the family itself can be said to be "at fault" for the effects of those environmental forces. The antisocial alcoholics in the sample of Loukas et al. were not necessarily "to blame" for their children's conduct problems. It is far more likely that the severe stress experienced by these families, which may also contribute to the parental health concerns assessed in that study, is the root cause of most of the dysfunction reported by Loukas et al. (Shaw et al., 2000; cf. Boss, 1988; McCubbin & Patterson, 1983).

**Implications for Treatment**

The potential developmental outcomes of childhood conduct disorder serve to emphasize the importance of prevention and treatment, especially once initial signs of the disorder are present (Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998; Liddle & Hogue, 2000). Given the deleterious effects of antisocial behavior on society as a whole, treatment of behavior problems is of paramount importance. Treating disruptive behavior disorders soon after their onset has the potential to prevent the problems from escalating into more severe forms. From a longer-term perspective, treatment of early oppositional and problem behavior can help to ameliorate the expenditures inherent in incarceration, victim services, and other costs associated with managing serious later antisocial behavior and its consequences (Patterson et al., 1989).

Researchers working within developmental psychopathology have long stressed that treating any disorder involves mapping both its natural developmental course and the factors that contribute to its onset and escalation (Cicchetti & Toth, 1992; Rutter, 1997a, 1997b; Rutter & Sroufe, 2000). Along that line of reasoning, it must be emphasized that the first significant environmental contribution to the developmental etiology of anti-
social behavior is coercive, impulsive, and inconsistent parenting practices (Dishion et al., 1999; Dishion et al., 1995). These parenting practices are most likely to be used by parents who are themselves antisocial (Iacono, Carlson, Taylor, Elkins, & McGue, 1999) or who have substance-use disorders (Hill, Locke, Lovers, & Connelly, 1999; Marshal & Chassin, 2000). In essence, then, it appears that antisocial tendencies are transmitted from parent to child by way of harsh and coercive parenting practices. This, in turn, would argue for treatment and prevention approaches that emphasize correcting maladaptive parenting and dysfunctional family interactions (Hogue & Liddle, 1999; Nye, Zucker, & Fitzgerald, 1999). Improving the quality and consistency of parenting should enhance the affective bond between parents and children (Schmidt, Liddle, & Dakof, 1996), thereby stopping (and perhaps reversing) the escalation of the child's behavior problems (Hammash et al., 1995).

As treatment developers and researchers, our interest in the developmental psychopathology of antisocial behavior stems from the fact that the etiology and course of the disorder provide for prevention and treatment. For example, if it is known that the ecological factors that predispose adults toward alcoholism with comorbid antisocial personality disorder also place children at risk for conduct problems, then the presence of antisocial alcoholism in parents, especially parents living in stressful conditions, suggests the need for preventive interventions targeting externalizing behaviors (Leonard et al., 2000; Morikangas & Avenevoli, 2000; Nye et al., 1999). Moreover, once conduct problems have begun to emerge in children of antisocial alcoholic parents, treatment should be implemented as soon as possible to prevent the disorder from escalating out of control (Conduct Problems Prevention Research Group, 2000; Kazdin & Wassell, 2000). Knowing how conduct problems can intensify over time if untreated serves to highlight the need to treat problem behaviors as soon as they appear.

It is well known that antisocial behavior and related outcomes (e.g., school failure, drug abuse, and risky sexual contact) generally are socialized within the family (Patterson, 1982; Patterson et al., 1990). Transactions between parents and children in maladaptive families tend to take the form of mutually coercive interactions in which parents and children desire opposing outcomes (i.e., the parents generally want the child to stop misbehaving, and the child usually wants the parents to cede more and more control over to him) (Patterson & Dishion, 1988). With each successive transaction, the parents and the child both react with increasing hostility until one party, usually the parents, backs down and allows the other party, generally the child, to have his or her way (Patterson et al., 1990; Shaw & Bell, 1993). By way of repeated coercive exchanges with parents, children learn that escalating their protests and tantrums tends to compel their parents to give up more and more power, until the child becomes uncontrollable (Dishion & Patterson, 1997; Patterson, Reid, & Dishion, 1992). In this way, unskilled and inconsistent parents, most notably those with antisocial tendencies and substance-abuse problems, literally teach their children to be aggressive and antisocial (Dishion et al., 1995; Patterson et al., 1989).

The emphasis on psychopathology as a symptom of maladaptive family functioning led scholars to advocate for family-based treatment and prevention as the modality of choice for child and adolescent behavior problems (e.g., Dishion & Kavanagh, 2000). Because the disorder is embedded in family functioning, the family unit as a whole should be involved in treatment (Sanders, 2000; Szapocznik & Williams, 2000; Williams, Chang, & Addiction Centre Adolescent Research Group, 2000). Family therapy offers a practitioner the ability to observe and intervene to redirect mutually coercive, escalating parent-child exchanges (Diamond & Liddle, 1996, 1999). In reformulating the way in which parents and children communicate with one another, family-based treatment has the potential to target and diminish the "fire" that fuels the child's conduct problems.

However, as Loukas et al. have reported, parental and child psychopathology are both likely a function of ecological stressors. When a family does not have access to adequate resources with which to handle stress, the family system and its members are likely to experience adverse consequences as a result (Boss, 1988; Dodge, Pettit, & Bates, 1994; McCubbin & Patterson, 1983; Reese et al., 2000). In many cases, parental substance abuse and antisocial personality disorder are brought about, in part, by the effects of external stress (e.g., poverty, unemployment, discrimination) on the family unit and on its members (e.g., "Cornille" & Boroto, 1992; Kagan & Schlossberg, 1989; Seilhamer, Jacob, & Dunn, 1993). These same stressors that contribute to the maintenance of parental substance abuse and antisocial personality are also likely to inhibit the parent's ability to initiate developmentally appropriate practices with his or her children (Brook, Nomura, & Cohen, 1990; Liddle, 1999; Sanders, 2000). Attempts to teach parents how to communicate with their children are unlikely to be effective as long as the parents - maladaptive family management strategies are being maintained by a pathogenic ecosystemic context (Liddle & Dakof, 1995).

The failure, in many cases, of treatments oriented toward restructuring family interactional patterns to ameliorate the child's behavior problems has led the prevention and treatment communities to consider more closely the embeddedness of the family and its members within a wider ecosystemic context (Hogue & Liddle, 1999; Szapocznik & Williams, 2000). In turn, this expanded focus has brought about a reformulation of contemporary family therapy to target not only maladaptive family interactions but also the risk factors in the family's environment that compromise the parents' ability to manage and supervise their children effectively (Dishion & Kavanagh, 2000; Ozechowski & Liddle, 2000). That is, contemporary scholars have begun to move beyond the boundaries of the family unit in conceptualizing the scope of treatment for child and adolescent behavior problems (e.g., Liddle & Hogue, 2000, in press; Stantun & Shadish, 1997). Many recent family therapy approaches aim to treat not only the family system but all of the ecosystemic contexts in which the child and family are embedded (Liddle, 1995; Ozechowski & Liddle). The family unit, once considered to be the ultimate cause of health or dysfunction among its members, has itself begun to be viewed as subject to, influenced by, and, in many cases, constrained by its ecosystem (Liddle, 1999; Reese et al., 2000).

Drawing on Bronfenbrenner's (1979) ecological model of individual and family development, there is a "trickle-down" effect, in which events occurring at superordinate levels, such as community and government, place constraints on the family's immediate ecological context (e.g., school, workplace, neighborhood) (Dishion & Kavanagh, 2000; Hogue & Liddle, 1999). In turn, these contexts influence the family's ability to function adaptively, most notably the parents' ability to monitor and guide their children (Liddle, 1996; Newcomb, 1993). Finally, external influences on the family shape the quality of the family's interactions and, ultimately, the health or dysfunction of its members.
maladaptive family interactions to improve, the effects of ecological stressors need to be diminished, if not neutralized altogether.

We hope that the emphasis on the familial and ecological contexts advocated in the Loukas et al. paper, and elsewhere, will prompt the treatment and prevention communities to continue the shift from a "bad seed" approach, in which the child is held responsible for his or her inability to behave appropriately, to a contextual perspective in which treatment is applied to all the systems to which the child belongs.

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