

Parent Management Training:
A Program Linking Basic Research and Practical Application

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Abstract

This article summarizes 30 years of research at the Oregon Social Learning Center (OSLC) investigating the sources, mechanisms, sequelae, treatment, and prevention of child and adolescent antisocial behavior. The social interaction learning model guiding the research and applied programs is delineated. The model spotlights the key role parents play in their children's socialization. A broad review of the OSLC literature is presented with key references. The discussion of OSLC parent management training (PMT) efficacy trials covers positive outcomes for parents and children, the temporal generality of those outcomes, and the replication of beneficial effects using sophisticated assessment methods. The article articulates the main elements of PMT and applies them to a hypothetical case example. Future directions for dissemination are discussed.

Parent Management Training:

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Reviews of the literature concur that parent management training (PMT) is the only type of treatment that has produced significant and enduring positive effects for youngsters' conduct problems (e.g., Dumas, 1989; Kazdin, 1987; Lipsey & Wilson, 1993; McMahon & Wells, 1989). Successful short-term and long-term outcomes have been demonstrated and replicated for youngsters of preschool ages through adolescence in rigorous experimental studies with randomized designs and multiple agent and method assessment. Several teams of clinicians were involved in developing PMT programs for families with troubled youngsters (Hawkins, Peterson, Schweid, & Bijou, 1966; Patterson & Brodsky, 1966; Wahler, Winkle, Peterson, & Morrison, 1965). This article briefly summarizes subsequent work of Gerald Patterson and his colleagues at Oregon Social Learning Center (OSLC), one of the originating groups of the parent training approach. Our goal is threefold: (a) to present an overview of the model guiding the research and intervention program, (b) to provide a set of key references detailing the basic and applied research from OSLC, and (c) to introduce a snapshot case example illustrating some key elements of the intervention.

The OSLC model is built upon a solid empirical base that seeks to explain the etiology and outcomes of youngsters' antisocial behavior. The theoretical model informs the basic and applied work in an iterative process so that theory, methodology, and interventions are continuously refined. Over the years, the scope of this programmatic work has focused on antisocial behavior and incorporated co-occurring adjustment problems for youngsters (e.g., deviant peer association, school failure, substance abuse,

and depression). The results of longitudinal studies and clinical trials have been extended to prevention programs designed to prevent adjustment problems and promote healthy development within at-risk populations. Currently, the OSLC group is adapting the clinical and prevention programs for diverse populations and designing the methodology to study the process of disseminating the programs.

The focus on parents as principal agents of change for their children grew out of Patterson's experience in a residential treatment setting with children and adolescents in the 1950s. Although many youngsters showed improvement in their behavior in the highly structured institutional environment, their problems reemerged when they returned to unchanged home environments, and the youngsters were readmitted to residential treatment. To better understand this recidivism, Patterson and colleagues went into homes and observed families in the course of daily life (e.g., Patterson, 1969; Reid, 1978). Direct observations were also conducted in classrooms (e.g., Patterson, Littman, & Hinsey, 1964). These field observations in the naturalistic environment led to a set of hypotheses about the mechanisms of conduct disorder, hypotheses that were transformed into treatment procedures. The interventions were designed to teach responsible adults in the youngsters' social environments how to decrease children's deviant behavior and increase their prosocial behavior. The theoretical perspective that guides the intervention programs and the basic longitudinal research is a combination of social learning and social interaction theory (Patterson, 1982; Patterson, 1997).

The social interaction learning model is depicted in Figure 1. Within this framework, people are presumed to teach each other habitual patterns of reaction in a bidirectional shaping process (e.g., parent to child and child to parent). Child and

adolescent adjustment is shown as influenced directly by parenting practices and indirectly by contextual factors. Parental influence operates through both positive and coercive parenting practices and contextual factors surround the parenting environment. To the extent that family contexts alter parenting quality, they impact child and adolescent adjustment, with adverse contexts decreasing the likelihood of positive parenting and increasing coercive parenting. Thus, context must be taken into account when planning the content and delivery of intervention programs.

Figure 1 about here

Parenting Practices: The Proximal Sphere of Influence

Parents are the primary recipients of the intervention because they are their children's best teachers, their advocates, and are responsible for managing many social environments. Parental management of youngsters' social environments both at and away from home comprises several parenting skills that are the focus of the intervention programs. The goal of the intervention is to bolster positive parenting and diminish coercive tactics. Developmental studies have shown that coercive and disrupted positive parenting predict and covary with negative adjustment for youngsters in terms of antisocial behavior, academic failure, deviant peer association, delinquency, and depressed mood (Capaldi, 1992; Conger, Patterson, & Ge, 1995; DeGarmo, Forgatch, & Martinez, 1999; Dishion, Andrews, & Crosby, 1995a; Forgatch & DeGarmo, in press). Several books describing the parenting practices have been written for parents and mental health professionals (Chamberlain, 1994; Dishion & Patterson, 1996; Forgatch & Patterson, 1989; Patterson, 1975; Patterson, 1976; Patterson & Forgatch, 1975; Patterson & Forgatch, 1987; Patterson, Reid, Jones, & Conger, 1975).

Positive Parenting Practices. Each of the five positive parenting practices shown in Figure 1 represents a multifaceted construct that defines different skills. The intervention programs teach parents specific steps to take for each dimension. Skill encouragement incorporates ways in which adults promote competencies using contingent positive reinforcement (e.g., establishing reasonable goals, breaking goals into achievable steps, prompting appropriate behavior, rewarding progress). Discipline involves the establishment of appropriate rules with the application of mild contingent sanctions for violating the rules. Parents are taught to be consistent in their use of short, relatively immediate negative consequences (e.g., time out, short work chores, privilege removal) contingent upon the youngster's problematic behavior. Monitoring (also called supervision) becomes especially critical as youngsters spend more time away from home. Effective monitoring requires parents to keep track of their children in terms of the following: where they are, whom they are with, what they are doing, who the adults in charge are, and what the transportation arrangements are. Problem Solving involves skills that facilitate resolution of disagreements, negotiation of rules, and establishment of positive consequences for following the rules (e.g., allowance, extra privileges) and negative consequences for violating the rules (e.g., work chores, privilege removal). Positive Involvement includes the many ways that parents provide their youngsters with loving attention. It can include showing interest in things youngsters say and do, sharing pleasant activities, or otherwise spending enjoyable time together.

Coercive parenting practices. Coercive parenting practices take place at a microsocial level of family interaction, often starting with an innocuous but negative comment that escalates into a conflict. Certain contexts, such as stress, increase the

likelihood of coercion. Consider the following example. A parent who has a bad day at work comes home and to find a messy kitchen and her daughter sprawled on the floor, talking on the phone while munching popcorn. Instead of calmly directing the youngster clean up her mess, the parent snaps several angry commands: “Look at that mess! Clean it up right now! Don’t you glare at me when I’m talking to you! You need to learn some respect!” The child responds with several hostile remarks of her own and runs into her bedroom slamming the door. “You don’t even say hello to me when you come home. You walk in the door and start shouting. I hate you!” The mess remains, the parent is more upset, and now so is the child.

When such hostile interchanges are standard fare in a family, they become overlearned and generalize to other social settings. Families provide training in social interaction with practice at multiple levels (e.g., with siblings, parents, and parent-child). As family leaders, parents permit and promote certain patterns more than others. A balance favoring coercion can entrap family members in patterns that disrupt interpersonal relationships within the family and outside the home (e.g., with teachers, peers, and coworkers). Three coercive patterns are particularly lethal: negative reciprocity, escalation, and negative reinforcement.

Reciprocity takes place when one person responds in kind to another (e.g., husband shouts at wife and wife shouts back; parent and adolescent argue about an appropriate curfew, siblings hit each other). When negative reciprocity becomes a predictable action/reaction sequence, it is a sign of distress in families (Patterson, 1982) and in married couples (Hooley & Hahlweg, 1989).

Escalation is another form of coercion. In this situation, the exchange of hostile

behavior bounces back and forth until someone increases the intensity of the response (e.g., from shouting to humiliation, hitting, or another intense behavior). Escalation ultimately concludes the negativity bout, and one person wins with the last word, blow, or otherwise aversive behavior. The data show that escalation is functional in distressed families in that the other person often then withdraws from the conflict (Patterson, 1986; Snyder, Edwards, McGraw, Kilgore, & Holton, 1994).

The basic mechanism for reciprocity and escalation is negative reinforcement. A familiar example of negative reinforcement is the buzzing seatbelt that silences when the two ends are fastened. In this way, compliance with seatbelt regulations is secured by terminating the aversive stimulus of the buzz. This form of negative reinforcement reflects escape conditioning. The aversive event stops when the expected behavior is performed. The buzzing seat belt also shapes up avoidance in subsequent trials so that people fasten the belt immediately upon entering the car. Escape and avoidance conditioning bouts also take place during family interactions. A common example happens when parents direct their children to do homework. This direction serves like the buzzing seat belt; it is an aversive stimulus for the child who hates homework. If the child lies and says there is no homework and the parent lets the child watch television, the child learns that lying terminates the parental demand. Thus, the child is negatively reinforced for lying. In other families a temper tantrum may serve the same function.

Contextual Factors: Proximal for Parents, Distal for Youngsters

Within the theoretical model illustrated in Figure 1, contexts are presumed to impact youngsters indirectly through their impact on parenting practices. If one or more negative contexts impinge on a family, many aspects of parenting practices can suffer and

ultimately the adjustment of children and adolescents can be negatively affected. In this sense, the effect of context on youngsters is mediated by parenting practices.

Mediational hypotheses are commonly tested using strategies spelled out in a set of classic papers (Judd & Kenny, 1981; Baron & Kenny, 1986). These analytic strategies evaluate the extent to which the relation between an independent and dependent variable may be explained by a third variable. For example, the relationship between parental stress and negative child/adolescent outcome was mediated by coercive discipline practices in several studies (Conger et al., 1995; Forgatch, Patterson, & Ray, 1996; Patterson, 1986). Similarly, the relation between family structure transitions (i.e., divorce and repartnering) and boys' antisocial behavior was mediated by the parenting practices of coercive discipline, ineffective monitoring, poor problem solving, and low levels of positive involvement (Capaldi & Patterson, 1991; Clingempeel, Brand, & Ievoli, 1984; Forgatch & DeGarmo, 1997). Other studies showed the relationship between parental psychopathology (e.g., antisocial qualities or depression) and child antisocial behavior to be mediated by lax monitoring, coercive discipline, and poor problem solving (Forgatch & DeGarmo, 1997; Patterson & Dishion, 1985). In sum, these OSLC studies show that contexts play only an indirect role in the adjustment of youngsters to the extent that they disrupt parenting practices. However, it must be noted that longitudinal studies such as these provide correlational data, which cannot be used to ascribe causal status to variables. Only rigorous experimental studies can test the causal status of variables.

Several studies at OSLC have employed intervention as an experimental test of parenting practices as causal mechanisms for youngsters' negative adjustment outcomes (e.g., Chamberlain, 1994; Dishion, Patterson, & Kavanagh, 1992; Forgatch & DeGarmo,

in press). The most recent example was carried out in a series of studies with two separate samples of single mothers. The first was a longitudinal study that developed and tested correlational models showing that maternal parenting practices served as mediators of stressors associated with divorce (DeGarmo & Forgatch, 1997; Forgatch & DeGarmo, 1997; Forgatch et al., 1996; Patterson & Forgatch, 1990). Based on findings from that study, a randomized experimental study was then designed with a new sample of single mothers testing an intervention designed to increase effective parenting in the context of these stressors (Forgatch & DeGarmo, in press). The 12-month outcome data from that study showed that intervention benefited both mothers and their sons. Relative to their counterparts in the no-treatment control group, mothers in the experimental group showed more positive involvement and skill encouragement and less negative reinforcement and negative reciprocity. These positive effects to parenting were transmitted to their sons in terms of decreased maladaptive functioning at school, more prosocial behavior at school, and reduction in the boys' depression and association with deviant peers (Forgatch & DeGarmo, in press). Thus, the experimental manipulation evaluating the causal status of parenting practices for boys' adjustment supported the theoretical model.

A Developmental Model

A comprehensive treatment for conduct problems in children and adolescents requires a theoretical model that is developmental. A developmental model can specify precisely what the content of the intervention should be at each stage during the maturation process. For example, in infancy, parent training may focus primarily on caretaker skills applied during parent-child interaction. As youngsters enter school,

parents need to know how to promote their children's academic development and social competence with peers. With the onset of adolescence, parenting skills must expand even further to include strategies for monitoring youngsters' activities away from home, limiting contact with deviant peers, and learning a variety of prosocial skills. The earlier intervention begins in a dysfunctional process, the greater the impact in terms of preventing diffusion of negative effects. In support of this, data from OSLC treatment studies show that intervention early in the course of a child's antisocial trajectory increases the likelihood of beneficial outcomes (Dishion & Patterson, 1992).

Developmental models address questions about why certain processes begin and the mechanisms that initiate or maintain these processes. Such models also describe how the processes change over time. For example, the topography of antisocial behavior itself may start as noncompliance and temper tantrums in early childhood and transform during adolescence into more serious deviancy, such as delinquency and substance abuse. An empirically-based developmental theory can lead to better understanding of the mechanisms involved in transforming deviancy and can enhance design of effective treatment programs.

If antisocial behavior develops in response to reinforcing contingencies in the social environment, then as youngsters spend more time away from home, the relative impact of their socializing agents is likely to change. In early childhood, parents are the principal agents. As youngsters mature, peers become increasingly salient. Patterson tested this developmental hypothesis with a sample of boys at risk for delinquency (Patterson, 1993). In that study, Patterson examined the changing form of deviancy over a four-year period during the transition into adolescence (ages 10 to 14). The first step was

to evaluate the extent to which deviancy changed during that time. The measure of deviancy was a latent construct comprising four indicators: antisocial behavior, academic failure, substance use, and police arrest. As the boys matured, the factor structure of deviancy shifted from reliance on antisocial behavior and academic failure to incorporate increasingly serious problems (i.e., substance abuse and police arrests). The next step in the study was to determine whether or not the predictors of deviancy also changed. For childhood antisocial behavior and academic failure, disrupted parenting practices (i.e., monitoring and discipline) were the significant contributors to deviancy. For new forms of deviant behavior, however, association with deviant peers became the significant predictor. More recent analysis shows that new forms of delinquency tend to grow at the same rate in that the slopes are correlated (Patterson, Dishion, & Yoerger, in press). In that study, growth in deviancy was driven by the amount of time spent with deviant peers and by the relative amount of reinforcement provided by the peers for deviant behavior. Thus, peers became increasingly influential socializing agents during the transition to adolescence, especially if youngsters were allowed to wander in the community without adult supervision.

Several investigators view deviant peers as important socializing agents for deviant behavior in adolescence (Buehler, Patterson, & Furniss, 1966; Dishion, Spracklen, Andrews, & Patterson, 1996; Elliott & Menard, 1996). The application of these findings to intervention spotlights the importance of insulating youngsters from deviant peers (Dishion, French, & Patterson, 1995b; Patterson, 1993; Stoolmiller, 1994). To do this, parents need to carefully monitor their youngsters and engage them in peer and family activities that will promote positive skill development (Ary et al., 1999;

Fuligni & Eccles, 1993; Holmbeck, Paikoff, & Brooks-Gunn, 1995).

Timing of onset and frequency of delinquent acts are important developmental markers that predict long-term negative outcomes in adolescence and adulthood (Patterson, Capaldi, & Bank, 1991). Both early onset and frequency of antisocial acts are variables that can be used to identify children whose families would benefit from early intervention. The OSLC model posits that youngsters who are arrested before 14 years of age grow up in chaotic families characterized by ineffective parenting, perhaps as early as infancy (Patterson & Yoerger, in preparation; Shaw, Owens, Vondra, Keenan, & Winslow, 1996). Youngsters who are arrested for the first time after adolescence have been termed late starters (Patterson, Reid, & Dishion, 1992). These adolescents appear to emerge from deteriorating family contexts (e.g., job loss, divorce) that disrupt marginally adequate parenting. The problems may also develop when parents fail to adapt child-rearing strategies to fit youngsters' developmental shifts, such as the transition into adolescence. Regardless of etiology, late starters tend to have short-lived careers in delinquency (i.e., they drop out of the delinquent trajectories; Capaldi & Patterson, 1994). In general, early and late starters differ significantly in their familial contexts, reinforcement histories, and adjustment outcomes (Patterson & Yoerger, 1997).

Intervention Studies

The PMT approach as practiced at OSLC is flexible in format and benefits diverse outcomes for youngsters. Intervention formats include treatment with individual families (e.g., Patterson, Chamberlain, & Reid, 1982), parent education groups (e.g., Dishion & Andrews, 1995; Forgatch & DeGarmo, in press), intervention by audiotape with supplemental professional contact (e.g., Forgatch & Toobert, 1979), and treatment foster

care for extremely delinquent youngsters (e.g., Chamberlain & Reid, 1998; Chamberlain & Moore, in press). Beneficial effects for youngsters include reduction in problems, such as out-of-home placement, police arrests, and days institutionalized (Chamberlain, 1990; Patterson & Forgatch, 1995), problem behaviors at school (Dishion & Andrews, 1995; Forgatch & DeGarmo, in press), physical and verbal aggression (Patterson et al., 1982), physical aggression among students on the playground (Reid, Eddy, Fetrow, & Stoolmiller, 1999), tobacco use (Dishion & Andrews, 1995), and depression (Forgatch & DeGarmo, in press). The interventions also produce increases in certain prosocial behaviors, such as reading achievement, positive peer relations, and adaptive functioning at school (Forgatch & DeGarmo, in press; Martinez & Forgatch, 1999).

The parent management procedures have been tailored for a variety of clinical and prevention populations. Specific clinical programs have been designed for families with children with aggressive behavior and conduct problems, for child-abusive parents, for families with delinquent adolescents living at home, and also living in foster care. The procedures have been adapted to prevent these problems with at-risk populations, including single mothers, families living in high-crime neighborhoods, and families with youngsters in early adolescence with incipient behavior problems. The interventions have been tested in schools, community centers, homes, and at OSLC. Programs include parent education groups, skills training programs for children in classrooms, and strategies to prevent aggressive behavior on playgrounds at school. Programs for families with teens at risk for delinquency and substance abuse show promising short- and long-term results. Parent groups for families of elementary-school-aged youngsters show good effects for the parents and their children. Taken together, these OSLC studies support the efficacy of

the parent training programs for both clinical and at-risk samples.

The Intervention Process

The role of the therapist is to coach parents in effective child-rearing strategies. As is true in any effective intervention, therapists must draw on a set of sophisticated clinical skills to help the families through the change process. In the early stages of treatment, therapists must establish a strong collaborative relationship with parents by learning the parents' values, recognizing the parents' strengths as individuals and as parents, and inculcating the belief that parents are the best people to promote their children's healthy development. At first, some parents question being the focus of the intervention, feeling that the problem is in the child, not themselves. However, parents tend to accept normalizing explanations that they are not the problem but the solution. As treatment progresses and parents become actively engaged in the change process, the therapist uses the therapeutic relationship to address impediments to change.

The parent-training process takes place through didactic instruction, videotaped demonstration, role-play exercises, and home-practice assignments that are monitored through mid-week telephone calls. Each week, the goal is to teach the parents components of the parenting practices listed in Figure 1. The overall program proceeds through a sequential introduction of skills, one building upon another in an integrated fashion.

Therapists and parents work together to tailor the program to address the unique needs of individual families. As the parents learn to specify clear goals for their children and themselves as parents, the therapist introduces PMT strategies to accomplish these aims. If parents are concerned because their children are noncompliant, they learn how to

increase compliance. Compliance is framed as a skill that youngsters need to be taught. Parents teach it through (a) providing clear directions, (b) encouraging cooperation, and (c) setting limits for noncompliance. First, parents learn to pay attention to their children's compliant and noncompliant behavior. Next, parents learn to provide their youngsters with clear and specific directions in a firm yet polite manner. Then parents learn to respond contingently to their child's response. If the child cooperates, the parents encourage further cooperation with positive attention. Next, parents learn to provide small sanctions for noncompliance. Interpersonal problem solving skills are taught so families can negotiate rules and establish agreements about privileges or incentives that youngsters can earn by cooperating. Family problem solving sessions also are introduced to establish sanctions for violating these agreements. Throughout the course of the time-limited, goal-oriented intervention program, parents learn the importance of monitoring their youngsters' activities. Training in monitoring begins early in the intervention with exercises asking parents to attend to compliance.

In the next section of this article, we present a fictional case example to illustrate two key parenting practices of the PMT program: encouragement and discipline. The example operates within the context of recent divorce, which incorporates aspects of parental distress in the acute phase of adjusting to family structure change. The mother, overwhelmed by the many stressors accompanying divorce, has trouble functioning effectively in her role as parent. Like a tired old athlete, she has taken her place on the bench. In the example, the therapist acts as a coach, helping the mother strengthen old parenting skills and develop new ones. With support and encouragement, the mother is empowered to take back her position on the field as team captain.

A Case Study: Benched Parent

Sara and Clark Jones recently ended their marriage. Since the divorce, Clark saw their son (John, 10) sporadically and seldom provided monetary support. Sara worked as a clerk in a small company, and money was a serious problem. Although she had few financial resources, she worked hard to maintain a decent home for her son.

A teacher concerned about John's increasingly difficult behavior suggested that the family seek help. John had been a below-average student with some behavior problems (e.g., arguing, peer conflict, poor schoolwork), but his problems had worsened significantly since the divorce. Now he seldom turned in homework assignments and then lied to cover-up his behavior. He had also been involved in two physical fights at school.

At 30, Sara looked at least 10 years older, appearing worn down by life. Since the divorce, Sara had become severely depressed. Her distress, coupled with guilt about the divorce, paralyzed her. She could neither set limits on her son's problem behaviors nor invest energy in encouraging healthy development. Much like a benched second-string player at a sporting match, Sara watched the game without participating. Consequently, John ruled his home with noxious behavior. It was little wonder that he took this same behavior to school.

The therapist's goal in the first session was to begin developing a supportive working alliance with Sara. The therapist listened empathetically as she described her family problems. Sara sighed deeply as she fell into a chair during the initial meeting. Obviously nervous, she clutched her purse protectively in her lap. She cleared her throat carefully before saying: "My son is totally out of control. I just don't know what to do anymore. I feel helpless, like a defeated player on a losing team. All I can do now is stand

on the sidelines and watch things fall apart.” Tearfully, Sara explained that since the divorce, John’s behavior had become increasingly noncompliant at home and at school. Their frequent arguments often ended in shrieks and name-calling, with Sara giving up making John the clear winner. Furthermore, John liked to think of himself as the man of the house, deciding when to go to bed and when to get up. Worst of all, he had started hanging out with scary-looking kids who were in trouble all the time.

As Sara laid out the storyline of their family situation, the therapist focused on her strengths as a parent with frequent reassurance that it was not too late to become a more proactive player in her role as mother. But first, she had to get back in the game, which would take time and hard work. Because these problems had not developed overnight, they would not disappear with the mere wave of a magic wand. As captain of the family team, Sara would be in charge of the change process. Similar to the process of learning physical skills, she would need to learn new parenting techniques, try them out in practice sessions with guidance from her coach (a.k.a. therapist), and then use them at gametime (home).

Together, Sara and her coach developed a game plan based on her goals for the family. The first step in this process would require that Sara improve her scorekeeping skills (i.e., to track John’s positive and negative behavior more accurately). Her first homework assignment was to monitor John’s compliance and noncompliance at home. She discovered that John cooperated with her requests only about 40% of the time (“non-problem” compliance rates are about 70-80%; Whiting & Edwards, 1988).

Now that Sara knew the score, she was motivated to improve it. She began using her verbal and nonverbal behavior in ways that encouraged cooperation. Through role-

play, Sara discovered that her typical strategy had been to criticize and use guilt (e.g., “You’re lazy, which is why we have all these problems. You leave a trail of your things behind you throughout the house. Just look at your coat in the middle of the floor. You are driving me crazy!”). After some practice scrimmages in therapy sessions, she learned to give John short, specific, and polite directions without negative emotions: “John, please hang up your coat now.” As her skills grew, Sara discovered that her requests suffered most when she was tired. She practiced giving John effective directions regardless of her emotional state.

The next step was for Sara to teach John prosocial behaviors with social encouragement and other incentives. At first, she insisted she already did that: “I give him everything he wants. In fact, he’s a bit spoiled.” Actually, guilt drove much of her giving. When battles with John escalated into screaming matches, she would often hug and kiss him in the aftermath, tell him how much she loved him, and ultimately let him have his way. Inadvertently, she was teaching John that negative behavior earned affection and got him what he wanted. Sara learned to distinguish between appropriate and inappropriate ways of responding to John and began linking her reactions with John’s behavior rather than her own guilt. Some of the incentives that she had previously given freely to John (e.g., allowance) were now made contingent upon behaviors that she wanted him to learn (e.g., doing homework). John began to earn privileges and praise as he learned prosocial behaviors.

Sara used an incentive chart to structure her own behavior and encourage John’s healthy development. In the past, she had been disorganized and inconsistent in her use of praise and privileges. Now she used an organizing arsenal of plays or strategies. First, she

broke John's homework behavior into five steps: (1) bring assignment home, (2) start homework by 3:30 p.m., (3) show completed homework to Mom by dinnertime, (4) put completed homework in backpack, (5) place backpack by the front door by 8:00 p.m. Sara awarded John 1 point for each of the 5 steps. If John obtained 4 of the 5 points on a given day, he would earn an incentive such as special time alone with Mom, a special dessert, watching a favorite television program, or money. The incentive chart helped Sara take her role as the captain of the team.

The therapeutic team (therapist and mother) strategized ways to manage predictable challenges that emerged in the first few weeks. One problem was that John lied about having homework. To deal with this, Sara negotiated an agreement with John's teacher that he would send a signed sheet of paper home detailing the assignments each week. Another problem was that Sara lacked a plan for times when John had no homework. In response, she arranged a regular 30-minute study period to use on such days. The biggest challenge was that John could not sit still for the 30-minute period and was easily distracted. Therapist and mother agreed that the 30-minute goal was beyond John's present reach and set the study period for 15 minutes, and Sara restructured the home environment to minimize distractions. As John became consistent in earning his daily incentive for 15 minutes of study time, Sara gradually increased the goal to 30 minutes. As Sara became more competent and consistent as team captain, John became more successful in his schoolwork.

The next intervention step was for Sara to curb John's problem behaviors. ("I know I need to discipline John, but I can't spank him. Scolding doesn't work, but what else can I do?") The therapist suggested ways in which appropriate discipline can be used

in parallel with encouragement. Sara was introduced to strategies that offered short, unemotional, and immediate consequences to intervene with problem behaviors early in the chain of escalation.

Sara shook her head stubbornly when the therapist suggested that she use time out for noncompliance. She had tried time out in the past...unsuccessfully: "My son always refused to go." She once physically forced John to time out, but he fought so much that it was worse on her than on him. Now, Sara learned that the secret to success was in knowing when to use time out and how to remove a privilege when he refused time out. As in sporting events, time outs stop the action. Players can then cool off and start fresh with a new game strategy. Although not a panacea, time out became a key element of Sara's game plan.

Time out taught Sara how to respond appropriately to her youngster's misbehavior rather than react in kind to his aversive behavior, which sets up the coercive process. When Sara directed John to begin some unpleasant activity (e.g., homework), he typically employed his own set of aversive behaviors (e.g., arguing) to escape the unpleasant activity. When Sara reacted with yelling and arguing (negative reciprocity), a battle of aversive behaviors began that increased in intensity and amplitude (escalation) until John finally won with a temper tantrum and Sara giving in. In this way, Sara negatively reinforced John's temper tantrum behavior. By injecting time out in response to John's initial refusal to do homework, she stopped the coercive process in its tracks before it could escalate.

Before starting time out, Sara and the therapist discussed which behaviors should warrant time out (e.g., simple noncompliance). She then developed a list of back-up

privileges to withhold when John refused time out. She could control two privileges that were valuable to John: his video games, and his bike. To help Sara prepare for her big game at home, she and her coach repeatedly practiced using time out in session. They traded roles of mother and son and practiced both controlled and out-of-control scenarios. In this way, they avoided potential problems that could interfere during the game.

The therapist predicted that John's behavior would worsen at first. John had been in charge too long to yield his position readily. "I know this assignment is difficult and you may want to quit. But if you let things continue as they are now, things will be even harder to change when John becomes an adolescent. Hang in there. You are the parent. You can do it." Motivated to rise to this challenge, Sara applied time out. The therapist called during the week to encourage and troubleshoot with her. On one occasion, she gave John a 5-minute time out when he refused to pick up his coat. John began to argue and stomp his feet. The urge to yell at him was powerful, but Sara placed her hand over her mouth, took a deep breath, and reminded herself to stay neutral. She calmly added one minute to his time out until she reached 10 minutes. John was still arguing, so Sara told him that he had lost his one hour of video game playing for that afternoon. John then threw himself on the ground and began to yell and sob. Sara gathered up his video games and locked them away. She proudly recalled this experience to her therapist. Over the next few weeks John was sent to time out several times for noncompliance. Gradually, the need for time out diminished as her warnings became more powerful in curbing John's misbehavior. "Now he knows I mean business."

During the course of the 12-week intervention, Sara and John both improved-- Sara as team captain and John as a cooperative player. As John successfully learned

behaviors on the incentive chart, they were replaced with new behaviors to be learned (e.g., helping out around the house). Sara also learned how to implement other discipline strategies (e.g., a work chore) when John's behavior (e.g., lying) warranted something more than time out. Sara learned strategies to work effectively with John's teacher and monitor his school behavior, and John's grades began to improve. She became more skilled at monitoring his whereabouts and set up an arrangement enabling her to meet each of his friends and contact their parents before he would be allowed to visit their house. Although John continued to be argumentative, his aggressive and oppositional behavior improved markedly. No longer a benched player, Sara was fully engaged in her role as parent. She had a well-developed playbook, and stronger parenting skills that could be adapted to new matches and life challenges. An interesting side effect in the course of the treatment was that Sara's depression diminished.¹

Summary and Future Directions

In this article, we have briefly described the OSLC program of research into the sources, mechanisms, and sequelae of child and adolescent antisocial behavior. An essential dimension of this body of work is the reliance upon a clearly articulated theoretical framework that guides bi-directional processes between basic research and practical application. Within the social interaction learning model, Figure 1 showed the adjustment of youngsters to be enveloped in layers of influence--the most proximal provided by parenting practices--which in turn was encompassed by a host of social, environmental, and psychological contexts. We have provided some historical background regarding the evolution of parent management training as practiced at OSLC. Although our descriptions were brief, we have included references for selected literature

that describe the applied studies evaluating the efficacy of PMT and the basic developmental research that underlies this work.

When a scientific process is employed to integrate basic research and practical application within a theoretical model, scientific method, intervention procedures, and theory can benefit. Intervention programs can provide an experimental evaluation of the theory driving the program given that several conditions are met: (a) random assignment to experimental and control groups, (b) effective delivery of the intervention, (c) benefits to the experimental group relative to the control, and (d) demonstration that the putative mechanisms were measured properly and that they contributed to these benefits (Forgatch & Knutson, in press). Prevention trials can serve as experimental manipulations that establish the parenting practices as causal mechanisms. The OSLC group has now tested several clinical and prevention programs that meet these conditions, and support is gradually accumulating for the effectiveness of the interventions and the theoretical underpinnings of the program.

The current thrust of the OSLC group is to move these empirically validated intervention programs out of the research setting and into the real world so that their benefits can be made readily accessible. First, we need to develop our methodology, with valid and reliable measures to evaluate the extent to which (a) trainees become proficient in delivering programs, (b) program fidelity is maintained in non-research settings, and (c) significant reductions are produced in targeted outcomes (Sanders, 1999). Fortunately, a new science of dissemination is emerging that can promote this advancement (Carnine, 1998; Sanders, 1998).

As in any emerging science, we can expect the process to require refinement. To place programs that were developed within the somewhat narrow confines of OSLC into community settings and other cultures, we must change them while retaining their integrity, a process that will provide new levels of understanding.

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Footnote

¹ Empirical studies have shown reduced maternal depression following successful PMT interventions (Forehand, King, Peed, & Yoder, 1975; Forgatch, 1999; Patterson, 1980; Webster-Stratton, 1994).

Figure 1. A social interaction learning model.

