Research into Theory into Practice: An Overview of Family Based Interventions for Child Antisocial Behavior Developed at the Oregon Social Learning Center

De la Investigación a la Teoría a la Práctica: Una Perspectiva de las Intervenciones en Familia para los Niños con Comportamientos Antisociales en el Oregon Social Learning Center

Philip A. Fisher
University of Oregon, USA
Oregon Social Learning Center, USA

Kathryn S. Gilliam
University of Oregon, USA
Oregon Social Learning Center, USA

Abstract. Although many psychotherapeutic approaches exist for treating troubled children and their families, not all have been evaluated to be effective through research. Moreover, among those that have been determined to be "evidence-based," few have followed as coherent and rigorous a path of rigorous scientific investigation as the interventions that have been developed at the Oregon Social Learning Center. As such, these interventions serve as a model of "research to theory to practice" that may not only be employed to support families with children in need of treatment, but may also guide other programs of treatment development. This is the story of how this work has unfolded over the past four decades.
Keywords: children therapy, family therapy and foster care.

Resumen. Aunque existen muchos acercamientos terapéuticos para el tratamiento de los niños que han sufrido problemas y sus familias, ninguno de ellos ha sido validado en las investigaciones. Además, entre aquellos que han sido usados para generar evidencias, pocos han seguido el camino tan coherente y riguroso de investigación científica como las intervenciones que han sido desarrolladas en el Oregon Social Learning Center. Como tal, estas intervenciones sirven como un modelo " de investigación que va de la teoría a la práctica" y que no sólo puede ser empleado para apoyar familias con niños en la necesidad de tratamiento, sino que también puede servir para dirigir el desarrollo de otros programas de tratamiento. Esto es la historia de como se ha ido desarrollando este proyecto a lo largo de las cuatro últimas décadas.
Palabras clave: terapia infantil, terapia familiar, acogimiento familiar.

In the 1960s and 70s a program of research was initiated by Gerald Patterson and colleagues in Eugene, Oregon USA designed to understand the roots of disruptive behavior in children within the context of family interactions and family process (Patterson, 1982; Dishion & Patterson, 2006; Patterson, 2005). This work evolved out of the revolution in behaviorism that was occurring in psychology at this time, led by proponents such as Harvard's B.F. Skinner, and with movement away from traditional psychoanalytic models that had dominated the field for many decades. More specif-

La correspondencia sobre este artículo debe enviarse a Philip A. Fisher, Señor research Scientist, Oregon Social Learning Center. 10 Shelton McMurphey Bluvd., Eugene, OR 97401, USA. E-mail: *philf@oslc.org - philf@uoregon.edu*

ISSN: 1130-5274 - http://dx.doi.org/10.5093/cl2012a16

ically, the work of Patterson and colleagues embraced a social learning approach (Snyder, Reid, & Patterson, 2003). This approach is perhaps most commonly associated with the noted Stanford University psychologist Albert Bandura, whose classic studies showed that children will model aggressive behavior demonstrated in the laboratory setting by an adult (Bandura, Ross, & Ross, 1961; 1963). Patterson's work took off from this point but examined how children's behavior was shaped in the context of the family environment. In particular, Patterson, together with a team of fellow researchers and students, conducted seminal observational studies in the naturalistic contexts of every day family life (Patterson & Reid, 1970; Patterson, 1974). They created "microsocial" coding systems to quantify specific behaviors occurring between parents and children (Patterson & Reid, 1984). Through many hours of observational coding and careful data analysis, and by studying families longitudinally over the course of children's development, Patterson and colleagues developed the Coercion Model to describe how antisocial behavior evolves in children over time (Patterson, 1982; Patterson, 2002; Snyder & Stoolmiller, 2002).

Within the context of the Coercion Model, child problem behavior emerges within family contexts in which parents employ overly harsh and inconsistent discipline strategies (Capaldi, Chamberlain, & Patterson, 1997; Patterson, Forgatch, Yoerger, & Stoolmiller, 1998). Children's negative behavior may be ignored or may be met with equally negative or even more negative behavior from the parent. Because of the inconsistency with which parenting strategies are employed in these families, children may have difficulty predicting what sort of response is likely to occur from their own negative behavior. These negative discipline strategies tend to co-occur with low rates of positive reinforcement for child's positive behavior (Patterson, 1982; Snyder, 1977). That is, when children behave appropriately or in ways that parents desire, parents may not provide signals that allow children to understand that their parents see this behavior as positive. The third problematic parenting component that Patterson and colleagues noted in these families was a lack of monitoring and supervision of the child (Dishion & McMahon, 1998). This meant that when the child was engaged in problematic behaviors, the parent often failed to notice—especially if the child was out of sight of the parents' direct supervision.

When families who showed these problematic tendencies were observed across time, fairly predictable trajectories of development were observed in the children. The problems often could be observed to emerge very early on, around the age of two, when children first became able to explore their environments and to say "no" to their parents and other significant adults (Tremblay et al., 1999). As these children entered the social realm outside of the family, including preschool or primary school, it was noted that they typically had low rates of prosocial behavior and a relatively large repertoire of negative or coercive behavior (Cantrell & Prinz, 1985; Snyder et al., 2005). The implications of these behavioral profiles were that these children tended to be identified quickly by their peers and teachers as being undesirable playmates (Dishion, Andrews, & Crosby, 1995; Dodge, Coie, & Brakke, 1982; Patterson, Reid, & Dishion, 1992; Snyder & Stoolmiller, 2002). Subsequent research showed that children fitting this profile were likely to continue to be socially rejected by their peers over the years of their schooling, and to struggle acquiring good classroom behavioral skills (Dishion, Loeber, Stouthamer-Loeber, & Patterson, 1983). As such, they often had difficulty adjusting to the academic and social expectations of school.

As these children approached adolescence, a number of additional factors came into play (Patterson, 1993). First, in the context of their families, cycles of interaction appeared to escalate over time (Snyder, Edwards, McGraw, Kilgore, & Holton, 1994; Snyder & Patterson, 1995). Both parents and children resorted to increasingly negative strategies in order to terminate conflict (Patterson, 1982). This sort of "escape conditioning" had the effect of amplifying the children's negative behavior over time, and it also led to increased disengagement on the part of the parents as interactions became increasingly aversive. As such, the previously noted tendency to not monitor and supervise children only increased as the children grew, and the parents became more and more disengaged from the children.

ISSN: 1130-5274 - http://dx.doi.org/10.5093/cl2012a16

Rejection by more prosocial peers in their school and community environments also led these children to drift towards others like them. This sort of affiliation with a "deviant peer group" created a context in which oppositional and defiant behavior was often mutually reinforced (Dishion, Duncan, Eddy, Fagot, & Fetrow, 1994; Patterson et al., 1992). This, in combination with the lack of parental supervision (Snyder, Dishion, & Patterson, 1986; Patterson & Stouthamer-Loeber, 1984), placed these children at risk for a host of negative outcomes at the onset of adolescence, including school dropout, juvenile delinquency, drug and alcohol use, early initiation of sexual behavior, and related difficulties (Caspi, Elder, & Bem, 1987; Huesmann, Eron, Lefkowitz, & Walder, 1984; Patterson, DeBaryshe, & Ramsey, 1989; Robins & Ratcliff, 1979).

Of course, not all children who showed early risk for entry onto this life course antisocial trajectory remained on that path. Some, either due to changes in family structure or parenting strategies employed by their parents (or perhaps in some cases due to spontaneous remission), entered a more prosocial path. In addition, some children were observed to enter this trajectory later on in development, especially at the beginning of adolescence due to family transition such as divorce and other stresses (Martinez & Forgatch, 2002; Forgatch, Patterson, & Ray, 1996; Conger, Patterson, & Ge, 1995). However, as documented in a number of longitudinal studies, the combination of harsh and inconsistent discipline and poor parental monitoring early in life proved strongly predictive of this pattern of development (Calpaldi et al., 1997; Patterson et al., 1998).

It is important to recognize that parenting variables were not the only focus of the research by Patterson and colleagues. Numerous other variables were examined that were thought to possibly be involved in the initiation or escalation of antisocial behavior amongst children. Indeed, research showed that a number of variables did seem to be associated with these outcomes. For instance, being from a low income background (DeGarmo, Forgatch, & Martinez, 1999), having high levels of daily stress, being depressed (Gartstein & Fagot, 2003), having a child with a difficult temperament (Leve, Kim, & Pears, 2005), and a variety of other factors did seem also to predict negative outcomes. However, by using complex multivariate data analytic strategies, researchers determined that these variables were more distal in the development of antisocial behavior and that their action was primarily through their tendency to disrupt parenting (Bank, Forgatch, Patterson, & Fetrow, 1993; Conger et al., 1992; Conger et al., 1995; Larzelere & Patterson, 1990; Patterson, 1986). In other words, a parent being depressed or having a temperamentally difficult child was primarily associated with child problem behavior to the extent that it led parents to employ the types of parenting strategies that Patterson and colleagues found to be most predictive of negative outcomes. As such, parenting has remained one of the most proximal determinants of children's behavior (Larzelere & Patterson, 1990; Patterson, Forgatch, & DeGarmo, 2010). Given that children develop in an environment of relationships within the context of their families, and that their early years are spent largely in contact with parents, it is not surprising that so much should be determined by the nature of parenting. Nevertheless, these findings had large implications for the development of approaches to improve outcomes for children with antisocial behavior.

Theory into Practice: Implications of the Coercion Model for Intervention

Inasmuch as parenting practices specified within the Coercion Model were shown to be proximal causes of antisocial behavior, therein lay potential targets for intervention. In the late 1970s, Jerry Patterson along with colleagues John Reid, Patricia Chamberlain, and Marion Forgatch began to develop strategies to address children's behavioral problems by focusing on the specific dimensions of parenting that had been found to produce these problems. From the perspective of the present day, the idea of intervening with parents to affect children may seem commonplace. However, at the time, most treatments to address problem behavior in children focused on the children themselves (Kessler, 1966). They were designed to allow the child to

ISSN: 1130-5274 - http://dx.doi.org/10.5093/cl2012a16

express inner conflicts and resolve psychological issues, but rarely did they take into consideration the context in which these problems may have arisen. In contrast, the approach developed at the Oregon Social Learning Center embraced the idea of "parent training" (Patterson et al., 1992; Forgatch, 1994).

From the start, parent training approaches based on the Coercion Model addressed dimensions of parenting most predictive of problem behavior. These included an emphasis on reducing harsh and inconsistent discipline, increasing positive reinforcement of prosocial behavior, and supporting monitoring and supervision of the child's whereabouts (Patterson, 1982; Patterson et al., 1992; Patterson & Forgatch, 2005). One of the hallmarks of the parent training approach was the development of the "time out" technique. Although time out has come to be a meaningful phrase in its own right, it was originally a shorthand version of the concept of "time out from reinforcement" (Forgatch & Patterson, 2005). The idea was that in the context of coercive cycles of interaction, parents often inadvertently reinforce their child's negative behavior by engaging in conflict with them (Snyder & Patterson, 1995). In contrast, time out was designed to give parents an alternative strategy to deal with children's negative behavior that did not reinforce it. Parents were taught that timeout could be a consequence that could be delivered in a matter-of-fact manner, without parents becoming engaged in control battle (Forgatch & Patterson, 2005). Timeout has remained a central element of the OSLC parent training approach since its development.

Parents were also instructed in a variety of ways to employ positive reinforcement strategies. Many of these came directly from behavioral traditions that involved such things as token economies. Systems for noticing and rewarding positive behavior through stickers and star charts, marble jars, and other concrete methods were taught to parents in the context of parent training (Forgatch, 1994). Finally, strategies for monitoring and supervising children were introduced to parents. These strategies varied somewhat depending on the age of the child. In the context of young children, the primary emphasis was on supervision of the child within the home environment (Forgatch, 1994). With older children, it became necessary to address monitoring in community settings, involving such issues as awareness of who the child's friends are and where they are spending time (Forgatch & Patterson, 2005).

The original parent training approach developed at OSLC came to be called Parent Management Training (PMT; Forgatch, 1994; Patterson, 2005). In the same way that research had been the means for the development of the theory upon which PMT was based, research was also employed to evaluate the effectiveness of PMT. Over the years a number of randomized clinical trials have been conducted at OSLC and elsewhere to evaluate PMT (Chamberlain & Reid, 1998; Dishion, Patterson, & Kavanagh, 1992; Ogden & Hagen, 2008; Patterson, Chamberlain, & Reid, 1982; Walter & Gilmore, 1973; Wiltz & Patterson, 1974). The intervention has been found to be effective at impacting a variety of outcomes. Youth whose parents received the PMT intervention showed lower rates of observed deviant behaviors (Patterson et al., 1982), decreases in problem behaviors at home and at school (Forgatch, DeGarmo, & Beldavs, 2005), increases in school performance (Forgatch & DeGarmo, 2002), and fewer police arrests (Forgatch, Patterson, DeGarmo, & Beldavs, 2009).

Since its original development at OSLC, the PMT approach has been widely implemented in community settings. In the United States, PMT has been implemented in the states of Michigan and Kansas to address the needs of high-risk families. PMT has also been implemented at a national level in Norway (Ogden, Forgath, Askeland, Patterson, & Bullock, 2005), and widely implemented in Iceland, the Netherlands, and other countries.

The Coercion Model also formed the foundation of a number of related interventions outside of OSLC. These include evidence-based programs such as Incredible Years (Webster-Stratton, 2005), the Triple P Program (Sanders, Turner, & Markie-Dadds, 2002), and Parent Child Interaction Therapy (Eyberg, Boggs, & Algina, 1995). Although all of these interventions have their own distinct emphases and techniques, they have at their roots an emphasis on reducing harsh and inconsistent discipline strategies and increasing the use of positive and supportive parenting. In many countries including the

ISSN: 1130-5274 - http://dx.doi.org/10.5093/cl2012a16

United States, approaches based on the original social learning model have become among the most widely implemented parenting programs available.

Development of the MTFC Intensive Intervention for High-Risk Children and Adolescents

Although PMT and other social learning-based parenting interventions proved effective for many families, as early as the 1980s researchers at OSLC began to recognize that in some families coercive interactions had escalated to such a degree that the standard strategies employed with PMT were not sufficiently strong to impact child behavior (Bank, Marlowe, Reid, Patterson, & Weinrott, 1991; Chamberlain & Reid, 1998; Patterson, 2002). Consequently, a group led by Patricia Chamberlain began to look for alternative models that could be employed in a complementary manner with the PMT strategies. One such approach that held promise was therapeutic foster care (Chamberlain, 2003). This approach involved removing children from the immediate care of their families and placing them with foster families who received specialized training and ongoing support in behavioral parenting approaches. While the children were in foster care, their own parents received training in the same parenting techniques. This allowed for successful reintegration of the children in their birth families.

Chamberlain and colleagues originally tested this approach, which they called Multidimensional Treatment Foster Care (MTFC; Fisher & Chamberlain, 2000), on a group of children who had been placed in a public psychiatric hospital (Chamberlain & Reid, 1991). They found that it was possible for these children to adjust to the MTFC foster family context in spite of a very high level of psychopathology. They next began to employee the approach with children in the youth justice system who had problems with delinquency (Chamberlain, 1990; Chamberlain & Reid, 1998). These children were very similar to those who had been studied in the original research at OSLC, who had been engaged in coercive family processes within their family of origin since early childhood. As with the children in the original studies, these adolescents had typically followed a path beginning in childhood of family conflict, social rejection by peers, school failure, drug and alcohol abuse, and ultimately incarceration due to criminal behavior. Placement in the MTFC program was an alternative to incarceration.

Details of the MTFC program are as follows and have also been described extensively elsewhere (Fisher & Chamberlain, 2000; Chamberlain, 2003). Prior to having a child placed with them program foster parents receive approximately 20 hours of training in effective parenting techniques. Once the child is placed with them, families have access to program staff via telephone or in person on an around-the-clock basis. While in the MTFC foster home, children are placed on a highly structured behavior management program, involving a level system that applies to their behavior at home and in school. At the first level, children have no unsupervised time and a very limited set of privileges. Once children have been on this level for a period of time and are demonstrating good behavior, they may proceed to the second level. On the second level they have some unsupervised time and the ability to earn more privileges. However, if they encounter behavioral problems or break the rules, they may be placed back onto the first level for a brief period of time until their behavior improves. The third level also exists for children who have been in the program and been very stable and successful for a number of months. On this level, children have roughly the same amount of freedom and privileges that typical children their age would have, and privileges and freedom are only removed to the extent that difficulties recur. Not all children reach this third level. The level system allows program staff to calibrate the amount of independence the child has in accordance with their ability to function within that context. As such, the program is able to increase and decrease the amount of control and supervision of the child commensurate with the child's level of need.

Foster parents in the MTFC program, in addition to having program staff available on call, receive support through two primary mechanisms. First, a weekly support group meeting is held at which fos-

ISSN: 1130-5274 - http://dx.doi.org/10.5093/cl2012a16

ter parents and program staff discuss each child and consider strategies that may be most effective for dealing with specific problem behavior and for increasing positive behavior. Second, foster parents receive a daily telephone call to report on problem behaviors that have occurred within the past 24 hours. The format for this telephone call involves a behavioral checklist called the Parent Daily Report (PDR; Chamberlain & Reid, 1987). The PDR consists of a list of approximately 35 commonly occurring behavior problems. The foster parent has to report which of these behaviors has occurred and for those that have occurred to indicate which were stressful. This information provides a daily record for program staff to identify specific issues requiring attention. In addition, the Parent Daily Report provides a means to monitor treatment progress by examining increases or decreases in the total number of problem behaviors and foster parent stress over time in treatment.

Children and adolescents in the MTFC program receive support via a behavioral skills coach who meets with the child on a weekly basis. Usually these meetings occur in community settings and involve typical activities such as playing sports, working on homework, or shopping at a store. Meetings are designed to increase specific prosocial skills that a child may require for successful interactions with peers or adults. In addition, the child's skills coach may engage in problem solving to help address current problems in the child's home or school settings.

If the plan is for the child to return home following treatment, biological parents receive weekly parent training sessions with a therapist while the child is in foster care. The parent training is based largely upon PMT strategies. Once the parent has begun to acquire positive parenting strategies, conjoint sessions with the child begin. In addition, parents begin to have home visits with the child. These visits are initially brief, lasting for only a few hours, but over time increase to overnight and weekend visits. Once the child's behavior has become stable in the foster home and the parents have acquired the skills taught to them in their parent training sessions, the focus shifts to reintegrating the child into their family of origin. For most children, treatment lasts for 9 to 12 months.

There has been extensive research using randomized clinical trials on the MTFC program. Numerous positive outcomes have been observed in the program as it has been employed with troubled adolescents. In comparison to adolescents in a regular group care, those receiving the MTFC intervention spent fewer days incarcerated (Fisher & Chamberlain, 2000), engaged in fewer delinquent behaviors (Fisher & Chamberlain, 2000), committed fewer violent offenses (Eddy, Whaley, & Chamberlain, 2004), had lower rates of substance use (Smith, Chamberlain, & Eddy, 2010), and had fewer associations with deviant peers (Leve, Chamberlain, & Reid, 2005). Additionally, changes in family management practices and associations with deviant peers, critical targets of the MTFC intervention, appear to mediate improvements in delinquent behaviors (Eddy & Chamberlain, 2000; Leve & Chamberlain, 2005).

As with the PMT program, MTFC has been widely implemented throughout the United States as well as in a number of other countries, including Canada, England, Sweden, Norway, the Netherlands, Ireland, Scotland, and New Zealand. It is one of the most widely employed evidence-based programs for addressing delinquent behavior. Moreover, because alternatives to therapeutic foster care for delinquent adolescents typically involve residential treatment, MTFC has been found to provide significant cost savings for addressing the needs of this population (Aos, Miller, & Drake, 2006).

Adaptations of MTFC for specific groups of children

Originally the MTFC model was employed for juvenile delinquent adolescent boys. Subsequently, there have been several adaptations of the program to address the needs of specific other populations. First, Chamberlain (together with her colleague Leslie Leve) developed programs for adolescent girls in the youth justice system, as well as for early adolescent girls who were beginning to have difficulties in this area (Leve, Chamberlain, & Reid, 2005). A number of studies have been conducted to evaluate the effectiveness of these programs.

ISSN: 1130-5274 - http://dx.doi.org/10.5093/cl2012a16

Noteworthy findings from these studies include reductions in criminal referrals and caregiver-reported delinquency (Leve, Chamberlain, & Reid, 2005; Chamberlain, Leve, & DeGarmo, 2007), as well as increases in school attendance and homework completion (Leve & Chamberlain, 2007) for girls participating in MTFC compared to those in group care. Importantly, MTFC has been shown to affect another important but not directly targeted outcome in this population – adolescent pregnancy. MTFC girls had significantly lower pregnancy rates two years after the beginning of the intervention than did those in group care (Kerr, Leve, & Chamberlain, 2009).

Fisher and colleagues have adapted the original MTFC program to address the specific needs of maltreated preschool-aged children (Fisher, Burraston, & Pears, 2005; Fisher, Ellis, & Chamberlain, 1999). This program has many similarities to the original MTFC program but rather than individual work with the children, the program includes a therapeutic playgroup to help children prepare for success when they enter school (Pears, Fisher, & Bronz, 2007). In addition, the program focuses considerable effort on developmental delays and the development of self-regulation, based on the recognition that many maltreated young children are considerably behind in their development based on the early stress that they have experienced.

Fisher and colleagues' research on the MTFC program for preschoolers (MTFC-P) has a focus on understanding the effects of early stress on the developing brain (Fisher, Gunnar, Chamberlain, & Reid, 2000; Fisher, Gunnar, Dozier, Bruce, & Pears, 2006). This research has examined stress hormone levels (cortisol) among children in foster care. Daytime cortisol levels appear to be dysregulated in many of these children, apparently associated with experiences of neglect and emotional abuse (Dozier et al., 2006; Bruce, Fisher, Pears, & Levine, 2009). In addition, Fisher and colleagues have found that the MTFC-P intervention affects daily stress hormone regulation (Fisher, Stoolmiller, Gunnar, & Burraston, 2007). Specifically, among foster children who do not receive the MTFC-P intervention, stress hormone levels become increasingly dysregulated over time, while the stress hormone levels of those receiving MTFC-P remain relatively stable (Fisher et al., 2007). Fisher and colleagues' research has also found that children who received the MTFC intervention show less cortisol dysregulation specifically associated with transitions from one home to another (Fisher, Van Ryzin, & Gunnar, 2011), as well as in connection with levels of foster parent stress experienced as a result of managing children's problem behavior (Fisher & Stoolmiller, 2008).

Additional positive effects of the intervention include improvements in behavioral domains for children receiving the MTFC-P intervention compared to those in regular foster care. Specifically, MTFC-P children exhibited increases in secure attachment-related behavior and decreases in avoidant behavior (Fisher & Kim, 2007). These children also experienced fewer placement disruptions, regardless of the number of previous placements, a known risk factor of placement failure mitigated by MTFC-P (Fisher et al., 2005).

Lower intensity adaptations of the MTFC model

Although the MTFC approach has been found to be highly effective, the program is by definition quite intensive in nature. It requires considerable resources both in terms of staffing and funding in order to be successfully implemented. In recognition of this, Chamberlain and colleagues developed a lower dosage version of the approach (Chamberlain, Price, Reid, & Landsverk, 2008; Price, Chamberlain, Landsverk, & Reid, 2010) called Project KEEP (keeping foster and kin parents supported and trained). The same core intervention strategies that have driven the PMT and MTFC models are employed in Project KEEP. Specifically, there is an emphasis on the use of consistent and non-harsh discipline methods, positive reinforcement for prosocial behavior, and monitoring of the child's whereabouts. However, services are delivered exclusively within the context of a weekly parenting support group. Moreover, whereas the MTFC approach typically lasts for 9 to 12 months, KEEP is a 16-week manualized intervention.

Project KEEP has been evaluated in the context of a randomized clinical trial in San Diego, California (Chamberlain, Price, Reid & Landsverk, 2008). In

ISSN: 1130-5274 - http://dx.doi.org/10.5093/cl2012a16

this study, 700 foster and kin parents were randomly assigned to receive the Project KEEP intervention or services as usual. Results of the randomized trial revealed that the children of Project KEEP foster and kin parents showed significantly fewer problem behaviors compared to the control children (Chamberlain, Price, Reid, et al., 2008). Additionally, the Project KEEP foster and kin parents demonstrated improvements in parenting practices, specifically increased use of positive reinforcement, compared to their control counterparts (Chamberlain, Pirce, Leve, et al., 2008). Importantly, changes in child problem behaviors were mediated by changes in parenting practices, and this relationship was found to be particularly strong in high-risk children in foster families that reported more than six behavior problems per day initially (Chamberlain, Price, Leve, et al., 2008). Project KEEP had positive effects on placement outcomes as well, such that Project KEEP children experienced an increased likelihood of a positive placement change (i.e., reunification with birth families) and mitigates the typically negative effects of many previous placements (Price, Chamberlain, Landsverk, Reid, Leve, & Laurent, 2008). Thus, Project KEEP appears to be an effective and efficient means of improving positive outcomes for children in foster and kinship placements

As with its predecessors, Project KEEP is being widely implemented now that it is an officially evidence-based program. In addition to implementations around the United States, the intervention is being employed in England and Sweden. The original version of Project KEEP was designed for 6 to 12-year-old children. In recent developments, KEEP has been adapted for adolescents and for children 0 to 3 and 3 to 6. Research to evaluate the effectiveness of these adaptations is currently under way.

Conclusions and future directions

The development of programs to treat high-risk children and their families, including children with significant histories of maltreatment and abuse, is part of an ongoing cycle at the Oregon Social Learning Center. This cycle began with the seminal research of Patterson and colleagues on the origins of antisocial behavior in the family. The research led to a theory, the Coercion Model. The theory subsequently led to a set of practices that began with the PMT program and subsequently spawned the MTFC program and its adaptations, and more recently Project KEEP and its adaptations. This cycle of research into theory and practice is ongoing. New interventions that are developed are always subject to empirical research to evaluate them, and evaluations that result can lead to revisions in the underlying theoretical model. For example, much of our work involving young children has been informed by Fisher and colleagues' research involving the effects of early stress on neurobiological systems. This research shows that beyond behavior it is necessary to attend to regulatory processes in how children respond to stress as part of the intervention strategies employed.

In addition to ongoing cycles of research into theory into practice, attention is increasingly being focused on public policy as it relates to programs for high-risk children and families. Clearly it is not enough to develop programs and document their effectiveness. To the extent that these programs are not taken up on large-scale bases within communities, they ultimately have little impact. Thus, understanding how policymakers determine which programs will be funded, providing information that can be useful to individuals interested in implementing evidence-based practice, and understanding how to maintain program effectiveness once programs become property of community agencies are additional foci of the work we are conducting.

Because the implementation of these programs has been widespread in so many communities throughout the United States and in other countries, we have increasingly become sensitive to issues of cultural adaptation as well. Our experiences are that the particular parenting techniques that are promoted within these programs have a large degree of cultural universality. However sensitivity still needs to be applied when working with disadvantaged individuals as well as individuals who may be experiencing discrimination in order to prevent disempowerment from the implementation of outside models within these contexts. One of the strategies that has

ISSN: 1130-5274 - http://dx.doi.org/10.5093/cl2012a16

been most effectively employed in this regard is the use of paraprofessional intervention staff in various program roles. This has allowed us to engage community members in the interventions themselves. For example, many of our Project KEEP groups employ former foster parents as group leaders (Chamberlain, Price, Leve, et al., 2008). These individuals bring a high degree of credibility to their roles, and are able to speak the same language as the foster parents participating in groups. Having staff that are similar ethnicity to participating families is also extremely beneficial. To a large degree, we have come to understand the process of implementation in community settings as one of cultural exchange, in which we as intervention developers have specific strategies that need to be followed, but also in which the intervention changes to fit the specific context of the community. This sort of mutual exchange ensures that all individuals involved will find the experience to be satisfying and helps reduce resistance to program implementation.

As the number of communities implementing these programs continues to increase, and programs are implemented in new countries and cultures, there is no doubt that further adaptations may be required. These changes will be informed by the cycle of research into theory and practice that has informed our work for the past four decades. This strategy is both effective and rewarding for all involved and continues to provide a clear sense of direction to program developers and researchers.

References

Aos, S., Miller, M., & Drake, E. (2006). *Evidence-based public policy options to reduce future prison construction, criminal justice costs, and crime rates*. Olympia: Washington State Institute for Public Policy.

Bandura, A., Ross, D., & Ross, S.A. (1961). Transmission of aggression through imitation of Aggressive models. *Journal of Abnormal and Social Psychology*, *63*, 575-582.

Bandura, A., Ross, D., & Ross, S.A. (1963). Imitation of film-mediated aggressive models. *Journal of Abnormal and Social Psychology*, *66*, 3-11.

Bank, L., Forgatch, M. S., Patterson, G. R., & Fetrow, R. A. (1993). Parenting practices of single mothers: Mediators of negative contextual factors. *Journal of Marriage and Family*, *55*, 371-384.

Bank, L., Marlowe, J. H., Reid, J. B., Patterson, G. R., & Weinrott, M. R. (1991). A comparative evaluation of parent training for families of chronic delinquents. *Journal of Abnormal Child Psychology*, *19*, 15-33.

Bruce, J., Fisher, P. A., Pears, K. C., & Levine, S. (2009). Morning cortisol levels in preschool-aged foster children: Differential effects of maltreatment type. *Developmental Psychobiology, 51,* 14-23.

Capaldi, D. M., Chamberlain, P., & Patterson, G. R. (1997). Ineffective discipline and conduct problems in males: Association, late adolescent outcomes, and prevention. *Aggression and Violent Behavior*, *2*(4), 343-353.

Cantrell, V. L., & Prinz, R. J. (1985). Multiple predictors of rejected, neglected, and accepted children: Relation between sociometric status and behavioral characteristics. *Journal of Consulting and Clinical Psychology*, *53*, 884-889.

Caspi, A., Elder, G. H., & Bem, D. J. (1987). Moving against the world: Life course patterns of explosive children. *Developmental Psychology*, *23*, 308-313.

Chamberlain, P. (1990). Comparative evaluation of specialized foster care for seriously delinquent youths: A first step. *Community Alternatives: International Journal of Family Care, 2*, 21-36.

Chamberlain, P. (2003). The Oregon Multidimensional Treatment Foster Care model: Features, outcomes, and progress in dissemination. In S. Schoenwald & S. Henggeler (Series Eds.), Moving evidence-based treatments from the laboratory into clinical practice. *Cognitive and Behavioral Practice*, *10*, 303-312.

Chamberlain, P., Leve, L. D., & DeGarmo, D. S. (2007). Multidimensional treatment foster care for girls in the juvenile justice system: 2-year follow-up of a randomized clinical trial. *Journal of Consulting and Clinical Psychology, 75,* 187-193.

Chamberlain, P., Price, J., Reid, J. B., & Landsverk, J. (2008). Cascading implementation of a foster

ISSN: 1130-5274 - http://dx.doi.org/10.5093/cl2012a16

and kinship parent intervention. *Child Welfare, 87*(5), 27-48.

Chamberlain, P., Price, J., Leve, L. D., Laurent, H., Landsverk, J. A., & Reid, J. B. (2008). Prevention of behavior problems for children in foster care: Outcomes and mediation effects. *Prevention Science, 9,* 17-27.

Chamberlain, P., & Reid, J. B. (1987). Parent observation and report of child symptoms. *Behavioral Assessment*, *9*, 97-109.

Chamberlain, P., & Reid, J. B. (1991). Using a specialized foster care community treatment model for children and adolescents leaving the state mental hospital. *Journal of Community Psychology*, *19*, 266-276.

Chamberlain, P., & Reid, J. (1998). Comparison of two community alternatives to incarceration for chronic juvenile offenders. *Journal of Consulting and Clinical Psychology, 6,* 624-633.

Conger, R. D., Conger, K. J., Elder, G. H., Jr., Lorenz, F. O., Simons, R. L., & Whitbeck, L. B. (1992). A family process model of economic hardship and adjustment of early adolescent boys. *Child Development*, *63*, 526-541.

Conger, R. D., Patterson, G. R., & Ge, X. (1995). It takes two to replicate: A mediational model for the impact of parents' stress on adolescent adjustment. *Child Development*, *66*, 80-97.

DeGarmo, D. S., Forgatch, M. S., & Martinez, C. R. Jr., (1999). Parenting of divorced mothers as a link between social status and boys' academic outcomes: Unpacking the effects of SES. *Child Development, 70,* 1231-1245.

Dishion, T. J., Andrews, D. W., & Crosby, L. (1995). Antisocial boys and their friends in adolescence: Relationship characteristics, quality, and interactional processes. *Child Development*, *66*, 139-151.

Dishion, T. J., Duncan, T. E., Eddy, J. M., Fagot, B. I., & Fetrow, R. A. (1994). The world of parents and peers: Coercive exchanges and children's social adaption. *Social Development*, *3*, 255-268.

Dishion, T. J., & McMahon, R. J. (1998). Parental monitoring and the prevention of child and adolescent problem behavior: A conceptual and empirical formulation. *Clinical Child and Family Psychology Review*, *1*(1), 61-75.

Dishion, T. J., & Patterson, G. R. (2006). The development and ecology of antisocial behavior in children and adolescents. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology. Vol. 3: Risk, disorder, and adaptation* (pp. 503-541). New York: Wiley.

Dishion, T. J., Patterson, G. R., & Kavanagh, K. (1992). An experimental test of the coercion model: Linking theory, measurement, and intervention. In J. McCord & R. Tremblay (Eds.), *The interaction of theory and practice*: *Experimental studies of intervention* (pp. 253-282). New York: Guilford.

Dishion, T. J., Loeber, R., Stouthamer-Loeber, M., & Patterson, G. R. (1983). Social skills deficits and male adolescent delinquency. *Journal of Abnormal child Psychology*, *12*, 37-54.

Dodge, K. A., Coie, J. D., & Brakke, N. P. (1982). Behavior patterns of socially rejected and neglected preadolescents: The roles of social approach and aggression. *Journal of Abnormal Child Psychology*, *10*, 389-410.

Dozier, M., Peloso, E., Lindhiem, O., Gordon, M. K., Manni, M., Sepulveda, S., & Ackerman, J. (2006). Developing evidence-based interventions for foster children: An example of a randomized clinical trial with infants and toddlers. *Journal of Social Issues*, *62*(4), 767-785.

Eddy, J. M., & Chamberlain, P. (2000). Family management and deviant peer association as mediators of the impact of treatment condition on youth antisocial behavior. *Journal of Consulting and Clinical Psychology, 68,* 857-863.

Eddy, J. M., Whaley, R. B., & Chamberlain, P. (2004). The prevention of violent behavior by chronic and serious male juvenile offenders: A 2-year follow-up of a randomized clinical trial. *Journal of Emotional and Behavioral Disorders, 12,* 2-8.

Eyberg, S. M., Boggs, S. R., & Algina, J. (1995). Parent-child interaction therapy: A psychosocial model for the treatment of young children with conduct problem behavior and their families. *Psychopharmacology Bulletin*, *31*(1), 83-91.

Fisher, P. A., Burraston, B., & Pears, K. C. (2005). The Early Intervention Foster Care Program: Permanent placement outcomes from a randomized trial. *Child Maltreatment, 10,* 61-71.

ISSN: 1130-5274 - http://dx.doi.org/10.5093/cl2012a16

Fisher, P. A., & Chamberlain, P. (2000) Multidimensional treatment foster care: A program for intensive parenting, family support, and skill building. *Journal of Emotional and Behavioral Disorders, 8,* 155-164.

Fisher, P. A., Ellis, B. H., & Chamberlain, P. (1999). Early intervention foster care: A model for preventing risk in young children who have been maltreated. *Children services: Social policy, research, and practice, 2*(3), 159-182.

Fisher, P. A., Gunnar, M. R., Chamberlain, P., & Reid, J .B. (2000). Preventive intervention for maltreated preschool children: Impact on children's behavior, neuroendocrine activity, and foster parent functioning. *Journal of the American Academy of Child and Adolescent Psychiatry, 39,* 1356-1364.

Fisher, P. A., Gunnar, M., Dozier, M., Bruce, J., & Pears, K. C. (2006). Effects of a therapeutic intervention for foster children on behavior problems, caregiver attachment, and stress regulatory neural systems. *Annals of the New York Academy of Sciences, 1094,* 215-225.

Fisher, P. A., & Kim, H. K. (2007). Intervention effects on foster preschoolers' attachment related behaviors from a randomized trial. *Prevention Science, 8,* 161-170.

Fisher, P. A., & Stoolmiller, M. (2008). Intervention effects on foster parent stress: Associations with child cortisol levels. *Development and Psychopathology, 20,* 1003-1021.

Fisher, P. A., Stoolmiller, M., Gunnar, M. R., & Burraston, B. (2007). Effects of a therapeutic intervention for foster preschoolers on diurnal cortisol activity. *Psychoneuroendocrinology, 32,* 892-905.

Fisher, P. A., Van Ryzin, M. J., & Gunnar, M. R. (2011). Mitigating HPA axis dysregulation associated with placement changes in foster care. *Psychoneuroendocrinology, 36,* 531-539.

Forgatch, M. S. (1994). *Parenting through change: A training manual*. Eugene, OR: Oregon Social Learning Center.

Forgatch, M. S., & DeGarmo, D. S. (2002). Extending and testing the social interaction learning model with divorce samples. In J. B. Reid, G. R. Patterson, & J. Snyder (Eds.), Antisocial behavior in children and adolescents: A developmental analysis and model for intervention (pp. 235–256). Washington DC: American Psychological Association.

Forgatch, M. S., DeGarmo, D. S., & Beldavs, Z. G. (2005). An efficacious theory-based intervention for stepfamilies. *Behavior Therapy, 36*(4), 357-365.

Forgatch, M. S., & Patterson, G. R. (2005). *Parents and adolescents living together Part 2: Family problem solving*. Chicago, IL: Research Press.

Forgatch, M. S., Patterson, G. R., DeGarmo, D. S., & Beldavs, Z. G. (2009). Testing the Oregon Delinquency Model with 9-year follow-up of the Oregon Divorce Study. *Development and Psychopathology, 21,* 637-660.

Forgatch, M. S., Patterson, G .R., & Ray, J. A. (1996). Divorce and boys' adjustment problems: Two paths with a single model. In E.M. Hetherington (Ed.), *Stress, coping, and resiliency in children and the family* (pp. 67-105). Hillsdale, NJ: Erlbaum.

Gartstein, M. A., & Fagot, B. I. (2003). Parental depression, parenting and family adjustment, and child effortful control: Explaining externalizing behaviors for preschool children. *Applied Developmental Psychology, 24*, 143-177.

Huesmann, L. R., Eron, L. D., Lefkowitz, M. M., & Walder, L. O. (1984). Stability of aggression over time and generations. *Developmental Psychology*, *20*, 1120-1134.

Kerr, D., Leve, L. D., & Chamberlain, P. (2009). Pregnancy rates among juvenile justice girls in two RCTs of Multidimensional Treatment Foster Care. *Journal of Consulting and Clinical Psychology, 77,* 588-593.

Kessler, J. W. (1966). *Psychopathology of Childhood*. Englewood Cliffs, NJ: Prentice Hall.

Larzelere, R. E., & Patterson, G. R. (1990). Parental management: Mediators of the effect of socioeconomic status on early delinquency. *Criminology*, *28*, 301-323.

Leve, L. D., & Chamberlain, P. (2005). Association with delinquent peers: Intervention effects for youth in the juvenile justice system. *Journal of Abnormal Child Psychology, 33,* 339-347.

Leve, L. D., & Chamberlain, P. (2007). A random-

ISSN: 1130-5274 - http://dx.doi.org/10.5093/cl2012a16

ized evaluation of Multidimensional Treatment Foster Care: Effects on school attendance and homework completion in juvenile justice girls. *Research on Social Work Practice, 17,* 657-663.

Leve, L. D., Chamberlain, P., & Reid, J. B. (2005). Intervention outcomes for girls referred from juvenile justice: Effects on delinquency. *Journal of Consulting and Clinical Psychology, 73,* 1181-1185.

Leve, L. D., Kim, H. K., & Pears, K. C. (2005). Childhood temperament and family environment as predictors of internalizing and externalizing trajectories from ages 5 to 17. *Journal of Abnormal Child Psychology, 33,* 505-520.

Martinez, C. R., Jr., & Forgatch, M. S. (2002). Adjusting to change: Linking family structure transitions with parenting and boy adjustment. *Journal of Family Psychology, 16,* 107-117.

Ogden, T., Forgatch, M. S., Askeland, E., Patterson, G. R., & Bullock, B. M. (2005). Implementation of parent management training at the national level: The case of Norway. *Journal of Social Work Prac-tice, 19,* 317-329.

Ogden, T., & Hagen, K. A. (2008).Treatment Effectiveness of Parent Management Training in Norway: A Randomized Controlled Trial of Children With Conduct Problems. *Journal of Consulting and Clinical Psychology*, *76*(4), 607-621.

Patterson, G. R. (1974). Interventions for boys with conduct problems: Multiple settings, treatments, and criteria. *Journal of Consulting and Clinical Psychology*, *42*, 471-481.

Patterson, G. R. (1982). *A social learning approach: 3. Coercive family process*. Eugene, OR: Castalia.

Patterson, G. R. (1986). Performance models for antisocial boys. *American Psychologist*, *41*, 432-444.

Patterson, G. R. (1993). Orderly change in a stable world: The antisocial trait as a chimera. *Journal of Consulting and Clinical Psychology, 61*, 911-919.

Patterson, G. R. (2002). The early developmental of coercive family process. In J. B. Reid, G. R. Patter-son, & J. Snyder (Eds.), *Antisocial behavior in children and adolescents: Developmental theories and models for intervention* (pp. 25-44). Washington, DC: American Psychological Association.

Patterson, G. R. (2005). The next generation of PMTO models. *The Behavior Therapist,* 28, 25-32.

Patterson, G. R., Chamberlain, P., & Reid, J. B. (1982). A comparative evaluation of parent training procedures. *Behavior Therapy, 13*, 638-650.

Patterson, G.R., Debaryshe, B., & Ramsey, E. (1989). A developmental perspective on antisocial behavior. *American Psychologist*, *44*(2), 329-335.

Patterson, G. R., & Forgatch, M. S. (2005). *Parents and adolescents: I. Living together*. Chicago, IL: Research Press.

Patterson, G. R., Forgatch, M. S., & DeGarmo, D. S. (2010).Cascading effects following intervention. *Development and Psychopathology, 22* (Special Is-sue 04), 949-970.

Patterson, G. R., Forgatch, M. S., Yoerger, K., & Stoolmiller, M. (1998). Variables that initiate and maintain an early-onset trajectory for juvenile offending. *Development and Psychopathology, 10,* 531-547.

Patterson, G. R., & Reid, J. B. (1970). Reciprocity and coercion: Two facets of social systems. In C. Neuringer & J. L. Michael (Eds.), *Behavior modification in clinical psychology* (pp. 133-177). New York: Appleton-Century-Crofts.

Patterson, G. R., & Reid, J. B. (1984). Social interactional processes within the family: The study of moment-by-moment family transactions in which human social development is embedded. *Journal of Applied Developmental Psychology*, *5*, 237-262.

Patterson, G. R., Reid, J. B., & Dishion, T. J. (1992). *A social learning approach. IV. Antisocial boys*. Eugene, OR: Castalia.

Patterson, G. R., & Stouthamer-Loeber, M. (1984). The correlation of family management practices and delinquency. *Child Development*, *55*, 1299-1307.

Pears, K. C., Fisher, P. A., & Bronz, K. D. (2007). An intervention to promote social emotional school readiness in foster children: Preliminary outcomes from a pilot study. *School Psychology Review*, *36*(4), 665-673.

Price, J., Chamberlain, P., Landsverk, J., & Reid, J. B. (2010). KEEP foster parent training intervention: Model description and effectiveness. *Child and Family Social Work, 14*, 233-242.

ISSN: 1130-5274 - http://dx.doi.org/10.5093/cl2012a16

Price, J. M., Chamberlain, P., Landsverk, J., Reid, J., Leve, L. D., & Laurent, H. (2008). Effects of a foster parent training intervention on placement changes of children in foster care. *Child Maltreatment, 13,* 64-75.

Robins, L. N., & Ratcliff, K. S. (1979). Risk factors in the continuation of childhood antisocial

behavior into adulthood. *International Journal of Men-tal Health*, *7*(3-4), 96-116.

Sanders, M. R., Turner, K. M., & Markie-Dadds, C. (2002). The development and dissemination of the Triple P – Positive Parenting Program: A multilevel, evidence-based system of parenting and family support. *Prevention Science*, *3*(3), 173-189.

Smith, D. K., Chamberlain, P., & Eddy, J. M. (2010). Preliminary Support for Multidimensional Treatment Foster Care in Reducing Substance Use in Delinquent Boys. *Journal of Child and Adolescent Substance Abuse, 19*(4)*,* 343-358.

Snyder, J. J. (1977). Reinforcement analysis of interaction in problem and nonproblem families. *Journal of Abnormal Psychology, 86*, 528-535.

Snyder, J., Dishion, T. J., & Patterson, G. R. (1986). Determinants and consequences of associating with deviant peers during preadolescence and adolescence. *Journal of Early Adolescence, 6*, 29-43.

Snyder, J., Edwards, P., McGraw, K., Kilgore, K., and Holton, A. (1994). Escalation and reinforcement in mother-child conflict: social processes associated with the development of physical aggression. *Development and Psychopathology*, 6(2), 305-321.

Snyder, J. J., & Patterson, G. R. (1995). Individual differences in social aggression: A test of a reinforcement model of socialization in the natural environment. *Behavior Therapy, 26*, 371-391.

Snyder, J., Reid, J. B., & Patterson, G. R. (2003). A social learning model of child and adolescent antisocial behavior. In B. B. Lahey, T. E. Moffitt & A. Caspi (Eds.), *Causes of conduct disorder and juvenile delinquency*. (pp. 27-48). New York: Guilford Press.

Snyder, J., Schrepferman, L., Oeser, J., Patterson, G. R., Stoolmiller, M., Johnson, K., & Snyder, A. (2005). Deviancy training and association with de-viant peers in young children: Occurrence and contribution to early-onset conduct problems. *Development and Psychopathology*, *17*(2), 397-413.

Snyder J., & Stoolmiller, M. (2002). Reinforcement and coercion mechanisms in the development of antisocial behavior: Peer relationships. In: Reid, J. B., Patterson, G. R., Snyder, J., (Eds.), *Antisocial behavior in children and adolescents: A developmental analysis and model for intervention*. (pp. 65-100). Washington, DC: American Psychological Association.

Tremblay, R. E., Japel, C., Perusse, D., Mcduff, P., Boivin, M., Zoccolillo, M., & Montplaisir, J. (1999). The search for the age of 'onset' of physical aggression: Rousseau and Bandura revisited. *Criminal Behaviour and Mental Health*, *9*(1), 8-23.

Walter, H., & Gilmore, S. K. (1973). Placebo versus social learning effects in parent training procedures designed to alter the behaviors of aggressive boys. *Behavior Therapy*, *4*, 361-371.

Webster-Stratton, C. (2005). The Incredible Years: A training series for the prevention and treatment of conduct problems in young children. In Hibbs, E. D., & Jensen, P. S. (Eds.), *Psychosocial treatments for child and adolescent disorders: Empirically based strategies for clinical practice (2nd Ed.)*. (pp. 507-555). Washington, DC, US: American Psycho-logical Association.

Wiltz, N. A., Jr., & Patterson, G. R. (1974). An evaluation of parent training procedures designed to alter inappropriate aggressive behavior of boys. *Behavior Therapy*, *5*, 215-221.

Artículo recibido: 25/07/2012
Revisión recibida: 16/08/2012
Aceptado: 17/08/2012

ISSN: 1130-5274 - http://dx.doi.org/10.5093/cl2012a16