

Lessons Learned From The Dissemination of Parenting Wisely, A Parent Training  
CD-ROM

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### Abstract

An intervention was developed that did not rely upon trained or experienced service providers for its delivery to families with behavior disordered children and youth. The format is an interactive CD-ROM geared towards low income, single parent families. The very brief intervention offers privacy and engagement unlike traditional methods, and its low cost to implement has enabled it to be disseminated to over 300 agencies in four years. The supporting research showing moderate effect sizes on child problem behavior, both in university and community settings, is described. Dissemination efforts began with the formation of a company for marketing the program through a university business incubation center. Of the agencies using the program, 93 were surveyed as to factors associated with successful implementation. Administrative support and practitioner buy-in, and a commitment to evaluate the program added accountability for client outcomes, all of which accounted for 30-40% of the variance in implementation success. Steps to maintain effective programs are outlined.

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#### OVERVIEW OF THE INTERVENTION

Parenting Wisely (PW) is an interactive CD-ROM parent-training program that runs on an IBM compatible computer. The program combines the powerful effects of teaching parenting skills via videotaped modeling (Webster-Stratton, Kolpacoff, & Hollinsworth, 1988 ) with the responsiveness of a computer program (Bosco, 1986). Each user's responses determine the subsequent content and feedback that he or she receives, much like an interaction with a therapist. The PW program presents the parent with nine different problem situations that are common in many families. These include getting a child to complete homework, getting children to do household chores, and dealing with stepparent/stepchild conflict. When a problem is selected, a short video plays in which actors illustrate the problem. After the initial problem situation is presented, a screen appears that prompts the parent to select the method he or she normally uses (from a list of three solutions) to respond to the child's problematic behavior. The parent then watches as his or her selected solution is played out in the video. After the video segment is completed, the computer provides the parent with feedback in the form of a question and answer session. This feedback prompts the parent to think about the response he or she chose, as well as reasons why the response was effective or ineffective. Through the question and answer sections, the parent is taught parenting skills such as monitoring and supervision, contracting, praise, use of "I" statements, and assertive discipline. If an effective and adaptive method of dealing with the problem was not selected, the program prevents the parent from progressing to a new problem until the correct solution is chosen, viewed, and critiqued. After the correct solution has been chosen, a short review

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quiz (with feedback) is presented. This quiz allows parents to practice the newly learned skills. Upon completion of the quiz, the parent then advances to a new problem situation. Parents using the PW program received a workbook to take home. This workbook contains review questions (based on the problems presented in the computer program), critiques of each solution, a glossary of terms, and detailed instructions and practice exercises to aid in the implementation of skills taught in the program. Most parents (low to middle income) report reading the workbook moderately to thoroughly, and most parents report feeling confident that they will be able to use the skills taught (Kacir and Gordon, 1999; Segal, Chen, Gordon, Kacir, & Gyls, in press).

The models upon which the PW program was based are cognitive-behavioral, family systems, and social learning. A key concept incorporated into the program was to change the coercive parent-child interactions that give rise to antisocial behavior, a process well documented by Gerald Patterson at the Oregon Social Learning Center (Patterson, 1986). The Functional Family Therapy model, which the senior author has taught to graduate students and community professionals, was also influential in the development of PW (Alexander, & Parsons, 1982). A family systems approach where family members' actions are seen as interdependent is incorporated into the content and instructional design of PW. This family systems approach uses reframing and cognitive restructuring methods to foster behavior change. The content of PW was provided by the senior author's fifteen years of experience supervising graduate students conducting home-based functional family therapy with families of delinquents (over 250 families), as well as his thirty years of clinical experience working with low- and middle-income families in parent training sessions or family therapy.

### CENTRAL FEATURES OF THE INTERVENTION

Several years ago, an investigative team at Ohio University identified several barriers to parent education and family therapy. These barriers include the time commitment and cost of such interventions, accessibility, distrust of mental health providers, and the stigma associated with seeking such services. One of the principal barriers to many at risk families is the practitioner, since so many parents object to having another person (a stranger) tell them how to raise their children. With that in mind, PW was developed to overcome these barriers. Table 1 summarizes the differences between therapy, as practiced in community settings, and the technological approach used in PW.

INSERT TABLE 1 ABOUT HERE

Parenting Wisely was designed to be completed in one 2 ½ hour session, which means the time commitment to the program is minimal. Because PW can be used repeatedly in a standardized way, it is quite cost-effective. Once purchased, an agency need only buy additional workbooks to give to parents. PW is very flexible. Agencies can loan the program out to families, have workers take PW out to the home on a laptop computer, or house the program in a community building that is open evenings and weekends, such as a community center or public library. This allows parents to complete the program when it is convenient for them. Parents complete PW independently and receive feedback from the program itself. Because this feedback comes from the program, parents are less likely to become defensive. With PW, there is no need for self-

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disclosure, as might be expected in group parenting classes. Another unique feature of PW is that it teaches skills in the context of family problems. Instead of discussing a hypothetical problem or a personal problem, the parent sees another family in a difficult situation. The skills are introduced and applied to the example problems in the PW program. This helps parents see the skill in action, in a realistic situation. It can help parents generalize what they learn to their own lives.

The PW program is versatile in its use and how it has been integrated into community agencies. Although the most common and recommended use is individual administration done in private, group administration is also used and adds the advantages of group discussion and support for parents (those who are comfortable in groups). Group administration of the PW program or a different parenting program can follow individual use, as the majority of parents become open to participating in parent education discussion groups after individual use of PW (Paull, 2001). The program is also used in conjunction with family or parent interventions with a professional, either before, during, or as a booster following treatment. The use of a variety of teaching and motivational formats, which repeat similar content, helps parents to better implement the newly learned skills. Agency professionals, who ordinarily might be threatened by this technology, can view the PW program as an add-on to their usual practice.

### Population intervention is designed for

Parenting Wisely is designed for use by all parents and all personnel who work with children, their parents, and their families. Because was developed to appeal to low income families, it was written on a fifth-grade reading level. When PW's narrator

option is chosen, all text is read aloud. This enables parents who cannot read, or have minimal reading ability, to benefit from the program as well. The program is slanted towards single parents whose children and adolescents exhibit mild to moderate behavior problems, including children at risk for substance abuse and delinquency. The PW program is used along the continuum from primary prevention to treatment (indicated and selected).

Parenting Wisely is easy to use, even for those who have little or no experience with computers. In most cases, we have found that, if a staff person starts the PW program for the parent and shows the parent how to use the mouse, the parent is able to complete the program on his or her own. PW prompts the parent to select his or her level of computer ability. It then proceeds with instructions based on computer literacy (more detailed, step-by-step instructions, including a demonstration video of parents using the program, are included for those with little or no computer experience).

We designed PW to be used by all parents, regardless of the age of their children. Although the actors in the video segments are preadolescents and adolescents and the example problems are those faced by children of those age groups, most of the parenting skills taught can be used with all age groups.

#### Personnel who implement the intervention

Since we designed PW to be used by parents with little or no staff involvement (other than brief staff contact to boot up the program), training or professional experience in the use of the PW program is not required. Clinical training and experience can be useful, however. A professional with clinical experience can assess the needs of the

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family and tailor his or her recommendation of PW to a particular family. Families are more likely to use the PW program when a trusted professional recommends it.

In addition to use by therapists, PW is used as the curriculum for parent education classes, as an adjunct to traditional family therapy, as curriculum for high school family living skills courses, etc. Some agencies have used PW with parents in substance abuse treatment centers and some with incarcerated parents. Courts have used PW as an alternative to other punishments. The various professionals implementing this program are counselors, case managers, home visitors (nurses, child protective service personnel, probation officers) case workers, child care workers, extension agents, police, and teachers.

### Outcomes of Clinical Trials

Several research studies have been conducted to gauge the effectiveness of Parenting Wisely. (While the majority of these studies entailed random assignment of subjects to treatment or control groups, others did not. These latter studies are best regarded as feasibility or pilot studies). Research has shown that PW is effective at reducing child problem behaviors, improving family functioning, reducing maternal depression, improving parent knowledge of positive parenting skills, and increasing parent use of such skills (Segal, et al, 1999; Kacir & Gordon, 1999; Lagges & Gordon, 1999; Woodruff, Gordon, & Lobo, 2000).

In a study using parents at outpatient clinics and a residential treatment center for juvenile delinquents, Segal et al. (in press) found significant decreases in the number and intensity of child problem behaviors on the Eyberg Child Behavior Inventory (ECBI,

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Eyberg & Ross, 1978), with a third to half of the children showing clinically significant change (effect sizes ranged from .47 to .64). Parents also reported an increased use of effective parenting skills and showed greater knowledge of parenting skills taught in the program. In addition, they reported very high satisfaction with the program and confidence they could use the parenting skills taught to improve their children's behavior.

Kacir and Gordon (1999) randomly assigned parents of 13 to 15 year olds to two groups: PW treatment or control. At one- and four-month follow-up, parents in the PW group reported increased knowledge of parenting skills, as compared to parents in the control group. Before using PW, most parents reported clinically elevated scores on the ECBI. Four months after use of PW, 50% of these parents in the PW group reported teen behaviors that fell in the normal range on the ECBI. Average effect sizes for all measures were .46.

Gordon and Kacir (1998) investigated the effectiveness of PW when used with court-referred parents of delinquent adolescents. Although many of these subjects were initially resistant to treatment and unmotivated, they showed improvements (as compared to a matched no-treatment control group). At 3- and 6-month follow-up, PW parents showed improved parenting knowledge and fewer child problem behaviors (as measured by the Total Problems Scale of the ECBI). Also, these parents showed reductions in negative child behaviors, as measured by the Parent Daily Report (Chamberlain & Reid, 1987). Effect sizes ranged from .49 to .76. Control subjects were matched on involvement with the juvenile court, not on pretest level of behavior problems. These control subjects did not show improvements in child problem behaviors on either measure.

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Parents of fourth through sixth grade children in very low income, rural Appalachian communities were randomly assigned to receive one of two parenting interventions: PW (delivered on a laptop computer brought to the home) or Principles of Parenting (Woodruff, Gordon, & Lobo, 2000). The Principles of Parenting program consists of written booklets that instruct parents in the use of parenting skills. Six weeks and six months after receiving the programs, there were reductions in child problem behaviors (ECBI) and maternal depression, reported by parents in both groups (PW parents reported greater reductions, however). Both groups showed improvements on Family Assessment Device (Epstein, Baldwin, & Bishop, 1983), which measures family functioning. PW parents reported improvements in communication, problem solving, and establishment of clear expectations and roles for family members. Clinically significant behavior change occurred for 42% of the PW group and 27% of the comparison group.

PW has also been used with teenage mothers, whose children were infants and toddlers. Compared to randomly assigned control subjects, teenage mothers in the PW group showed increased knowledge of adaptive parenting skills at two-month follow-up. Mothers in the PW group were more likely than control mothers to endorse adaptive parenting skills than coercive practices at follow-up (Lagges & Gordon, 1999).

There is also research to support the use of PW as curriculum for a high school parent education class. Students from two rural, lower middle income high schools were compared. One school presented PW to the class as a group; the other school received the traditional, lengthier parent education course. Only the PW students showed increased knowledge of adaptive parenting skills. Interestingly, PW students reported

using the newly learned communication skills with their peers but not with their parents (Jenks & Gordon, 1999).

A recent study investigated the effectiveness of PW with middle-class families living in a major metropolitan area of the Midwest. School personnel referred families of middle school students (from both public and parochial schools) to the study. The PW group completed either the video or CD-ROM version of the program, and the control group was untreated. Parochial school families who scored in the clinically deviant range on the ECBI showed reductions on both the total problems and problem intensity subscales of the ECBI over time. PW subjects also showed fewer emotional problems and total child problems on the Strengths and Difficulties Questionnaire (Goodman, Meltzer, & Bailey, 1998). PW parents from the public schools reported using healthier strategies during conflicts with their spouse than subjects in the control group at follow-up. Those public school families who scored in the deviant range on the ECBI showed some reductions in violence toward spouse (spouse report on spouse) and violence toward children (child report on father and mother separately) (Rolland Stanar, Gordon, & Carlston, 2001).

Low income families were targeted for intervention with PW in Fall River, MA in a CSAP-funded project (Paull, Caldwell, & Klimm, 2001). Program completion rates were high (83%) among the 184 parents using the program. Participant ratings of the satisfaction, usefulness, and relevance of the program were high. Participants reported increases in parent-child bonding (expressing affection) and decreased shouting or yelling and losing their tempers at their children. Following use of the PW program, 38% of the participants participated in a group-based parenting skills class. These data support

reports by other agencies that use of PW increased participation in parent education classes with a population that previously had not been receptive to parent education.

A practitioner in British Columbia has implemented the PW program in individual and group format with parents of children and youth with disruptive disorders. He reports clinically significant change (two standard deviations) on the Eyberg Child Behavior Inventory (Eyberg & Robinson, 1983) ranging from 20 to 43% of the children. He finds greater effects for children under 12 and for group presentation (Pushak, 2001).

We know of approximately 12 independent evaluations of PW in community settings in the US and in the UK underway currently, so the quantity of research on this program will increase and become available soon. With these data, along with details on each implementation, we hope to learn the most effective methods for using this technology with at-risk families so that we can pass this knowledge on to other practitioners.

## DISSEMINATION EFFORTS

### Forces that prompted efforts to disseminate the intervention

I<sup>1</sup> spent most of my career training graduate students, professionals, and paraprofessionals to use parenting and family interventions that were grounded in behavioral, social learning, and, later, cognitive-behavioral methods and good outcome research. Initially my approach followed the model of the Oregon Social Learning Center (Patterson, Reid) and focused primarily on mother-child dyads. Years of watching my clients, and those of my graduate students, improve fairly quickly led to a desire for more challenges, as well as a desire to do something different. When the opportunity arose to work with adolescents involved with juvenile court and their families, I was drawn to Jim Alexander's successful approach, Functional Family Therapy (FFT) (Alexander &

Parsons, 1982). I first began using this method in my private practice, then trained students in FFT. We found the complexity of working with the whole family and the challenge of rural poverty exciting, especially since the treatment seemed effective (subsequent research confirmed this—see Gordon, Jurkovic, and Arbuthnot, 1997, for a review). These families did not seem to be well served by traditional individually-oriented mental health or juvenile court services.

I wanted to spread the use of this empirically-validated treatment beyond a handful of graduate students each year, many of whom would go on to focus on more affluent clients. I began offering workshops for paraprofessionals in community agencies, and providing weekly telephone supervision after listening to tapes of the family therapy sessions. Former graduate students joined me in this training (funded as an applied research project). Our attempt to transfer this training to paraprofessionals was unsuccessful (those with mental health backgrounds generally were more resistant to implementing new methods than other social service providers). Maintaining treatment integrity was extremely difficult, despite the use of therapist checklists and weekly supervision.

When I trained experienced professionals in FFT, I ran into obstacles similar to those Barton noted in his replication of FFT (Alexander, Pugh, Parsons, & Sexton, 2000). Psychodynamic and humanistic therapists were opposed to the behavioral specificity required in FFT, and eclectic therapists were not willing to put in the organized, disciplined work that behavioral approaches require. Many therapists do not possess knowledge about, and resisted learning, the behavior change methods they were supposed to teach parents. Cognitive-behavioral therapists, however, were quite comfortable with

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<sup>1</sup> The use of the first person refers to the senior author.

the model. Many therapists objected to the accountability required (filling out session checklists, making regular supervision meetings, measuring outcomes). Another challenge for therapists was accepting the FFT model's view that it was the therapist's responsibility to engage difficult families. These therapists are used to blaming a failure to engage on the families rather than on their methods.

Others have noted the difficulty encountered when trying to change clinical practice. Bickman & Noser (1999) express concern about therapists' likelihood of following a defined treatment protocol if ongoing close supervision and consequences are not in place. Supervisors must have effective consequences at their disposal to motivate practitioners to adhere to the treatment protocols. Implementing such consequences has been a very difficult challenge because service providers resist attempts to limit their autonomy, and are not used to receiving feedback about their effectiveness. Chambless (1999) noted that the dissemination of empirically-validated treatments is problematic because practitioners are hampered by time, distance, and money when seeking supervised training. The recent availability of state and federal funding is helping agencies afford such training and supervision. It is a challenge to recruit and retain service providers who possess key attributes and skills that increase the likelihood that they will benefit from such (re)training. When practitioners do not have strong science-based academic training, they are more skeptical of empirically validated interventions. This is especially problematic when the new procedures conflict with their usual practices, their clinical experience, and their personal beliefs. Paul Gendreau explains such skepticism as part of the "common sense revolution" (Gendreau, Goggin, Cullen, & Pappozzi, in press). This revolution is manifested by the disregard for empirically validated treatments, an anti-empirical bias held by those with

personal experience with the topic (crime, family relations, problem child behavior). To these practitioners, administrators, and policy makers, if a certain treatment practice makes “common sense” to them, there is no need to look for evidence to support or refute such treatments, or to evaluate them. Holding such an attitude can be tragic as exemplified by the widespread use of individual therapy for troubled children and adolescents with behavior problems, in spite of research reviews and large-scale well-designed studies showing that such community interventions do not lead to positive outcomes for children (Weisz, Han, & Valeri, 1997; Bickman, 1996; Bickman and Noser, 1999; Carr, 2000).

Given the difficulties of changing clinical practice, we wanted to develop a method that was psycho-educational and self-help oriented in order to overcome the barriers mentioned above. We also wanted a method that would focus on family relationships, to educate parents about the important role that parenting and family living skills play in preventing and treating child behavior problems, and also to educate service providers. It was our hope that the PW program would help shift the focus of social service workers from the individual child to the family.

#### Strategies used to try to disseminate

We have been using a variety of steps to disseminate PW, and are expanding as we have more resources to bring to bear on this considerable challenge. Because the PW approach is unusual we demonstrate the technology at professional conferences, in addition to the usual presentation of the program’s content and research findings. Many professionals have never seen a highly interactive (Level III) CD-ROM interactive video program, or an Internet-based intervention. Seeing this technology immediately clarifies

its advantages. Conferences where we present include those that deal with the treatment and prevention of substance abuse, such as juvenile justice, mental health, child protective services, marriage and family educators and therapists, criminal justice, etc. National conferences permit the widest exposure to those most active in their professions. Occasional presentation at state conferences offers the advantage of increasing the networking and collaboration amongst a more cohesive group of professionals.

Conferences sponsored by state and federal government agencies are emphasizing “best practices” interventions, which meet varying standards of empirical validation. Examples of federal conferences where we presented PW are the Center for Substance Abuse Prevention (CSAP) conferences on empirically validated family interventions. Governmental agencies also publish and disseminate information on such practices, including website listing, such as CSAP, OJJDP, and the Centers for the Application of Prevention Technologies (CAPT). Our CD-ROM technology can also be demonstrated through a website, eliminating the need to mail demonstration versions of the program. Our website (<http://www.familyworksinc.com> and [www.parentingwisely.com](http://www.parentingwisely.com)) is devoted to PW, listing all of the research on the program, as well as other information important to an agency considering implementation:

In order to market the PW program, we formed a company (Family Works) at our university’s business incubation center. The university provided office space and support in the form of telephone, duplication, faxing, and secretarial help. Most valuable was consultation with on-site experts in all aspects of developing a small business, including marketing advice and research, copyrighting, patents, and licensing. The company packaged the program so that it would make a professional appearance, and developed

promotional materials (videos, demo CDs, and brochures). Most of its activities were marketing, including advertising in practitioner journals and newsletters, direct mail to social service agencies, and exhibiting at relevant conferences. Profits from the sale of the CD-ROM are used to expand marketing, to develop upgrades and new CD-ROMs based on research and user feedback, and to provide immediate funding for research when unexpected opportunities arise. Such university-private company partnerships offer advantages that neither entity could accomplish alone. For a more detailed discussion of the challenges facing university faculty who develop programs to disseminate, see Gordon (2000).

Another activity that has had a modest effect upon dissemination is media attention. Ohio University's media relations department, which publicizes faculty members' work, generated some newspaper and radio interest in the PW program. Media attention tends to be brief and unpredictable, however. The author's contact with the BBC when they were covering an international conference resulted in a subsequent BBC documentary ("Trouble With Boys"). The documentary showed the progress and changes made by the family of a delinquent boy following the family's participation in Functional Family Therapy and the PW program. The broadcast facilitated the dissemination of family-based preventive interventions in the U.K. Policy makers (the future Home Secretary) attending the same conference subsequently required "Parenting Orders" to be part of delinquency treatment programs nationwide.

A final step taken to foster dissemination is continued contact with agencies that have purchased the PW program (such contact is routine for most other programs that involve staff training and some ongoing supervision). We make calls and send

newsletters to encourage agencies to implement the program as designed, to conduct controlled evaluations on its impact, and to offer consultation when trying to overcome community barriers. We encourage agencies to collaborate with each other, we suggest needed areas of research, and we encourage them to submit their evaluations for presentation at their professional conferences. We plan to provide a network of agencies that are conducting evaluations to facilitate information transfer. By staying in contact with a variety of agencies doing this work, we can incorporate their feedback and research results into improvements to the program. This can be done regularly and inexpensively, via upgrades to the PW program. Changing the CD-ROM is a much less daunting task than that faced by developers of traditional programs who wish to introduce changes, following initial training, in the practices of service providers. We also ask agencies what additions to this technology they would like to see, and notify them when these improvements or new programs are available. This feedback loop has resulted in the development of a Spanish version of PW for first generation Hispanic families. Under development is a version of the PW CD-ROM for foster parents and workers in residential institutions for delinquents and troubled adolescents (based upon a desire for scenes showing more intense, disturbed teen behavior), and a young children's version of PW (ages 3-9) based upon a desire for earlier intervention. Evaluations of these programs will begin once they are completed. We have been surprised by the willingness of so many diverse community agencies to participate in these evaluations. Their appreciation for the value of research has grown from their successful implementation of science-based programs.

What is known about how widely the intervention has been disseminated

Social service agencies in 45 states have purchased the program, with the highest concentrations in the Midwest, and some southern and western states. Approximately 350 organizations in the US have purchased the program, with juvenile courts and family service agencies being the most common users. Widespread implementation within several communities has occurred when there was interagency coordination and training.

The PW program is also used in approximately 20 locations in England, 14 locations in Ireland, 8 in Canada, and 2 in Australia. University professors in several European countries are working to secure funding for cultural adaptations of the program (Germany, Holland, Spain), and a group of professors from France, Quebec (Canada), Switzerland, and Belgium are seeking funding for a cross-cultural study of an upcoming French version of PW. The interest in evidence-based family interventions in Europe is high, and European replications of US findings of PW's effectiveness would spur dissemination there.

Factors contributing to dissemination success or failure

Compared to other interventions where training of staff in complex skills is necessary, the spread of the PW program to over 300 locations in four years is fairly rapid. Several factors account for this. Since staff training and supervision is unnecessary, agencies can integrate the program into existing operations quickly and inexpensively. The cost per family treated is very low, and the number of families who complete this brief program is high. The ease of evaluation and strong treatment integrity fosters accountability and improves chances for continuation funding and expansion. Many family strengthening programs suffer from quite variable implementation methods,

which makes describing the intervention difficult. The PW program's CD-ROM technology affords a unique and appealing way to present content, and increases the number of at-risk families that can be reached. Unfortunately for most clinical interventions requiring extensive training and supervision, the factors contributing to dissemination success just mentioned do not apply.

With growing recognition of the importance of family-based interventions, more agencies make such services available, offering parent education and other family interventions. The participation of at-risk families in these programs is generally low. Several agencies and a recent study have confirmed our experiences that the use of the PW program subsequently increases these families' willingness to participate in parent education and family intervention programs (Paull, Caldwell, & Klimm,

2001). Therefore, some agencies are using PW as an introduction or "teaser" to improve participation in their other programs.

In order to get a more objective look at which factors predicted successful implementation of the program, we conducted a telephone survey of Parenting Wisely purchasers during June and July of 2001. Before beginning the survey, each respondent was asked if he or she was the person who worked most closely with PW. Customers were asked when they began using PW and how many parents/families have completed the program. These numbers were used to calculate the average number of PW users per month of PW operation. Customers rated factors related to implementation on a 5 point Likert-type scale. Such factors included support by various levels of staff (head of agency, middle-level management, practitioners who refer and/or deliver the PW program), use of incentives/coercion, practitioner use of PW, willingness to conduct

research, timeliness of PW information, clarity and credibility of information received about PW, and agency willingness to change. These factors resulted from our experience with dissemination and literature on technology transfer (Brown, 1995; Schoenwald & Henggeler, in press). In addition, customers rated their implementation of PW. See Appendix A for the survey questions.

Ninety-three telephone surveys were completed. Thirty-seven surveyed customers (39.8%) targeted the community at large for the PW program. Twenty-three (24.9%) used PW with families of court-involved children and adolescents. Several customers (12.9%) reported that PW referrals came from more than one avenue, including social service agencies, the juvenile justice system, and the school system. The majority of PW customers do not use coercion (59%) or incentives (77%) to attract families to the PW program. Thirty customers (32.3%) reported that parents have been court-ordered to complete PW. Four other customers (4.4%) reported parents are required to use the program by various social service agencies. Incentives such as money and gift certificates to local stores were used by 10% of customers. Several customers reported delivering PW during a family night, which included refreshments, free babysitting, transportation, and a raffle for door prizes.

Two multiple regression analyses were conducted, using two different dependent variables: average users per month and implementation ratings. A backward regression was performed to determine which survey items predicted the average number of PW users per month. Together in the model, the following survey items explained 31.6% of the variance in average use: willingness to conduct research, PW's consistency with agency mission statement and needs of population served, support for PW by

practitioners, and evaluation of the PW program. These factors were very similar to those mentioned (as anecdotal impressions) as important in the dissemination of MST (Schoenwald & Henggeler, in press). A second backward regression was performed using implementation ratings as the predictor. Taken together, support by middle-level management (i.e, chief probation officer, clinical supervisor, section head), staff willingness to change, average number of PW users per month, and type of research conducted (consumer satisfaction, pre-test/posttest) accounted for 41.3% of the variance in implementation success.

As mentioned previously, customers were asked to rate their agency's implementation of PW on a scale of 1 to 5 (1=not at all, 5=extremely thorough). Twenty-six customers reported that they had not implemented PW. Twenty-five rated their implementation as very or extremely thorough. Forty-one reported some or moderate levels of implementation. Based on his or her response to this item, each customer was asked the primary reason for implementation success or failure. Those customers who rated their implementation as thorough or extremely thorough were asked the primary reason for their success. Ten customers attributed success to the PW program itself (referring to the fact that PW is flexible, easy, unique, short-term, and includes problems relevant to the families). Seven reported factors related to their agency: receiving grant funding, strong staff support, writing PW into existing programming. Four reported referrals from the court or parents volunteering to do PW as key reasons for success.

Customers who reported little or no implementation were asked the primary reason for failure of implementation. Forty-four purchasers cited reasons related to staff and the agency itself, such as scheduling problems, staff turnover, loss of funding, staff

resistance, little local marketing of PW, as well as the fact that staff do not have time and are overwhelmed with other responsibilities. Twenty-two reported that the primary problem has been parental resistance. Nine cited problems with agency computers availability or problems getting PW to run properly on agency computers.

There are several limitations to this survey's accuracy. We chose two variables as indicators of program dissemination: monthly average number of families who received the intervention and interviewee's ratings of the agency's implementation of PW. The monthly average does not take into account the resources the agency devoted to the program. Thus, agencies with one staff member using the program were compared to those with many staff using the program. The interviewee's ratings of implementation thoroughness were subjective and may have been influenced by social desirability. These ratings also were based upon factors not specified in the interview, and their reliability is not known.

#### Barriers to dissemination.

Resistance to change is endemic to governments, agencies, therapists, as it is with parents. Regardless of how logical and cost effective innovations (such as family interventions) may be, they are often met with resistance. Many policy makers and administrators lack information about effective practices. Agencies often have limited abilities to plan and implement new programs, as well as limited start-up funds. The operational changes required of agencies to train, monitor, evaluate, motivate and maintain changes for practitioners are wrenching (Mendel, 2000).

Despite the value of using interactive CD-ROMs for parenting instruction, utilizing modern technology can be a daunting task for professionals and paraprofessionals. Many barriers block the path of even the most vigilant technology supporter (e.g. the lack of available equipment and funding to purchase, update, and maintain equipment; the lack of technological expertise; and the lack of training on how to implement the use of technology within specific fields). The use of technology among mental health providers is particularly challenging, as the mental health profession holds many views about the nature of change that must be altered for successful implementation of technological resources.

Many therapists received training influenced by the medical model, which focuses on individual psychopathology. Such professionals believe: 1) that psychological services need to be provided in a face-to-face, often one-on-one presentation in order to be effective; 2) that change can only occur within a confidential, self-disclosing relationship; 3) that services need to be provided by a human, who can mold the intervention to the individual client; and 4) that meaningful change takes a long time (Gordon, 2000). In addition, most therapists are unaware of the literature on the effects of videotaped modeling and interactive videodisk instruction. Thus, they may be skeptical that a computer or videodisk can enact meaningful change in a short period of time. Other professions, however, are more open to this notion. Family life educators are increasingly using technology to reach clients through videos, satellite down links, e-mail, the Internet, and interactive CD-ROMs. Judges and children's services personnel have also begun to recognize the ability of technology to reach more families, more often, with less expenditure of time, money, and personnel (Gordon & Kacir, 1998). Therapists

are not the only barriers to implementing technological services. Parents also need to change hard-held opinions. Despite the growth in computer access at work, in local libraries, and in homes, many parents remain computer illiterate. This ignorance of how technology works can lead to fear of the technology itself.

In addition to the fear and distrust of technology, many parents do not see the connection between parenting and their children's problem behaviors, and are resistant to parent training. In fact, many will not attend parent training classes unless mandated by a judge. In a national survey of education programs for divorcing parents, mandatory classes averaged 110 parents per month while voluntary attendance averaged about 20 parents monthly (Geasler & Blaisure, 1999). Court mandated programs have produced positive outcomes, such as improved parental communication and reductions in parental conflict and relitigation, and reduced delinquency (Arbuthnot & Gordon, 1996a; Arbuthnot, Kramer, & Gordon, 1997; Gordon, Graves, & Arbuthnot, 1995). Therefore, parents whose children are identified by juvenile courts, schools, and child protective services should be coerced or enticed to attend effective programs.

If parents do attend training, they often are not given the opportunity to actively participate. Only 35% of the programs in Geasler and Blaisure's study (1999) reported using active participant involvement such as role-play or skill building activities despite the evidence that this teaching strategy yields the best outcomes. Parent education for divorcing parents has enjoyed explosive growth, but the growing numbers of court-mandated parents attending these classes has led to larger classes and reduced interaction (Arbuthnot & Gordon, 1996b).

Many parents feel uncomfortable in groups or may be wary of asking specific questions in front of strangers (for fear of being judged). These parents prefer small groups or individual parent training. Often, parenting classes are so short that they only offer vague content, which means that specific parent problems are not addressed and parents do not have the opportunity to receive the skill building practice that seems to be necessary for change. In our experience, most parents who expressed a willingness to receive parent education failed to appear for the first session if they were assigned to a group rather than to an individual session. However, those who did attend the first group continued for all three sessions (Ponferrada, & Lobo 1999). Thus, many more parents who are open to parent education may be more likely to use a CD-ROM program individually than attend group sessions. Perhaps the pro-active parents seeking parent education prior to their children developing serious problems will be open to a private CD-ROM program, and if that is a successful experience, be open to attending parenting classes.

While some clients will have access to computers within their own homes, many will rely on schools, libraries, community centers, and agencies to provide access. In many cases, costs related to the purchase and maintenance of equipment will need to be absorbed by someone other than the client. The initial costs of implementing technological programs must be considered within the full formula of a cost-benefit analysis. Initial start-up costs, when compared to the price of time, wages, and materials for more traditional programming over time, are minimal.

How fidelity and outcomes are tracked in the dissemination effort

Treatment fidelity for a psycho-educational CD-ROM or video program is measured differently than for a program delivered by a service provider. Treatment fidelity, in a general sense, is tracked by the amount of time parents spend using the PW program. Since the average user will take two to three hours to complete the program, a parent who finished in one hour is very unlikely to have seen most of the program. The program was designed with a tracking feature that records the user's progress throughout the program and the amount of time spent on each section of the program. Their performance on multiple choice questions, interspersed throughout the program, is also tracked. In addition, program design requires users to finish sections before proceeding to other parts of the program. Parent self-report of their use of the accompanying workbook is another part of the intervention that can be tracked (but usually is not unless the using agency is conducting a formal evaluation).

When parents use the program with others (spouse, children, another parent), the amount of interaction may impact the program's effectiveness. Agencies can track who uses the program together, but more detailed reporting of the amount or type of interaction would require careful preparation. When the program is used in a group format, the number, content, and structure of the group sessions can be described by the group facilitators, or reported via an integrity checklist developed for the PW program.

When family intervention practitioners combine PW with individual family interventions, the use of the PW program as mediated by the practitioner should be described in a way that fosters replication and coding to allow grouping of similar approaches. As dissemination of this approach continues, more careful measurement of

the variations of presentation will occur such that their impact on effectiveness can be assessed.

## KEY LESSONS FOR OTHERS SEEKING TO DISSEMINATE EVIDENCE-BASED INTERVENTIONS

Based upon our experiences, we recommend others seeking to disseminate science-based interventions consider the following six steps: 1) The initial purchase of the program should be preceded by organizational discussion in which practitioners and administrators agree on the benefits and recognize the challenges of implementing the program. Detailed information about the program, including supporting research on the program's effectiveness, should be shared with both practitioners and administrators. 2) Development of some type of evaluation to assess the program's impact on the local population will provide the accountability we believe is necessary to keep driving full implementation. 3) Agency staff should acknowledge then develop specific steps to overcome the systemic resistance to the changes necessitated by full implementation. 4) Once the program begins to be implemented, periodic discussions between practitioners and administrators should monitor the plan developed in step 3. Having someone with authority and credibility (usually a mid to high level administrator) who is concerned with improving client outcomes, objectively measured, will foster the accountability necessary to stimulate thorough implementation. 5) Feedback from evaluators (researchers) to practitioners about outcomes, and feedback from practitioners to researchers about clinical observations and additional outcomes to measure (as well as discussion about measuring the effects of local innovations to the program) will foster a collaborative spirit and sustain ongoing evaluation and accountability. 6) Planning for

continuation funding, whether external or internal, and identifying additional client populations that may benefit from the program will help sustain the program past the initial phase. Altman (1995) has identified five phases, similar to the six steps above, to guide the transfer of research-based interventions to the community and sustain their long-term maintenance. The next level of challenges for dissemination science is to develop procedures to sustain those empirically validated interventions, while allowing for local adaptation of the program and evaluation of these changes. The MST group has received funding from OJJDP to specify clinical supervisory and organizational structures necessary for the development and maintenance of effective MST programs. This group will also develop measurement methods to promote treatment fidelity and evaluate programs as part of large-scale dissemination efforts. This knowledge will likely be very useful to most of us struggling to transfer research-based interventions to community use.

We are excited about the promise of CD-ROM (and Internet) programs. We recommend that program developers consider putting their interventions into this format for the advantages noted above. In particular, the time, expense, and energy devoted to ensuring treatment fidelity, a minor issue with this technology, could be better spent elsewhere (such as overcoming organizational and practitioner barriers to innovation).

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Table 1

Comparison of Therapy and Interactive CD-ROM

Therapy <sup>2</sup> s	Interactive CD-ROM
1. Verbal descriptions of parenting	1. Detailed verbal and visual examples of parenting
2. Judgment by therapist	2. No judgment by computer
3. Client defensiveness main obstacle to progress	3. Minimal client defensiveness
4. Client discloses parenting errors	4. Client recognizes parenting errors by actors
5. Feedback on parenting errors is infrequent and indirect	5. Client actively seeks feedback on parenting errors performed by actors in the program
6. Client rarely asks for repetition of unclear advice	6. Client can repeat any portion of the program at any time
7. Often pace is selected by therapist	7. Pace always selected by client
8. Infrequent reinforcement of good parenting practices	8. Frequent reinforcement of good parenting practices
9. Focus on therapist-client relationship	9. Exclusive focus on teaching good parenting
10. Majority of therapy time and cost devoted to resistance	10. Little of program time devoted to resistance
11. Difficult to improve therapist skills	11. Relatively easy to improve program structure and content

<sup>2</sup> Therapy as commonly practiced in community settings. Empirically validated treatments, which have just begun to penetrate community practice, may share some of the features listed under Interactive CD-ROM (such as demonstration of effective parenting practices).

Table 2  
Comparison of Studies of Parenting Wisely

Study	Participants (n)	Site	Design	Follow Up Period
Segal et al. (in press)	Parents of 11-18 yr olds (42)	Community mental health and juvenile Detention	RA <sup>1</sup> to 2 treatment groups	1 month
Lagges & Gordon (1999)	Teen parents of infants and toddlers (62)	School	RA to treatment and control	2 months
Kacir & Gordon (1999)	Parents of problem adolescents (38)	University	RA to treatment and control	2, 4 months
Gordon & Kacir (1998)	Parents of delinquents	Community and University	Treatment and matched control	1, 3, 6 months
Woodruff, Gordon, & Lobo (2000)	Parents of 9-13 year olds	Home	RA to 2 treatment groups	2, 6 months
Rolland Stanar, Gordon, & Carlston (2001)	Parents of 11-13 year olds	Home and school	Treatment and matched control	3, 6, 9 months

<sup>1</sup> = RA: Random Assignment

<sup>2</sup> = Eyberg Child Behavior Inventory

<sup>3</sup> = Parents Daily Report

<sup>4</sup> = Parental response to hypothetical problem behavior

## Appendix A

## Survey of PW Users for Factors Predicting Implementation Effectiveness

- A. Date you received the program:  
 B. Date you began using PW:  
 C. Approximate number of parents or families who have used PW:  
 D. Describe the target population to use PW:
1. Support for PW by agency head
 

None	Somewhat	Moderate	Very Much	Extremely
1	2	3	4	5
  
  2. Support for PW by middle level management (clinical supervisor, chief probation officer, section head)
 

None	Somewhat	Moderate	Very Much	Extremely
1	2	3	4	5
  
  3. Support for PW by practitioners, those who deliver the program or refer parents
 

None	Somewhat	Moderate	Very Much	Extremely
1	2	3	4	5
  
  4. Practitioner input prior to decision to purchase the program
 

None	Somewhat	Moderate	Very Much	Extremely
1	2	3	4	5
  
  5. Use of PW program by practitioners (do they use the program themselves)
 

None	A few	About half	Most practitioners	All practitioners
1	2	3	4	5
  
  6. Is coercion used to get parents to use PW?
 

None	A few	About half	Most parents	Almost all parents
1	2	3	4	5

If coercion is used, how (juvenile court mandate, school requirement for disciplinary problems)?
  
  7. Are incentives used to get parents to use PW?
 

None	A few	About half	Most parents	Almost all parents
1	2	3	4	5
  
  8. If incentives are used, what are they?
  
  9. Is there accountability for practitioners implementing the PW program?
 

None	Somewhat	Moderate	Very Much	Extremely
1	2	3	4	5
  
  10. If there is accountability, please describe:
  
  11. Is there a formal evaluation of PW's impact?
  
  12. How willing is your agency to examine outcomes systematically?
 

Not at all	Somewhat	Moderately	Very Much	Extremely
1	2	3	4	5
  
  13. If yes, please describe the evaluation:
  
  14. Are there any plans for continuation funding for the PW program?
  
  15. If yes, is a current evaluation being done with a view to securing continuation funds?

16. How would you rate the thoroughness of your agencies implementation of PW?  
 Not at all      Somewhat      Moderate      Very thorough      Extremely thorough  
 1                      2                      3                      4                      5
17. How consistent is PW with the mission of your organization and the needs of the population you serve?  
 Not at all      Somewhat      Moderately      Very Much      Extremely  
 1                      2                      3                      4                      5
18. How timely was the information on the effectiveness of PW for your organization's planning and decision-making process?  
 Not at all      Somewhat      Moderately      Very Much      Extremely  
 1                      2                      3                      4                      5
19. How clear was the information on PW's effectiveness and operation?  
 Not at all      Somewhat      Moderately      Very Much      Extremely  
 1                      2                      3                      4                      5
20. How credible was the information we supplied about PW and its effectiveness?  
 Not at all      Somewhat      Moderately      Very Much      Extremely  
 1                      2                      3                      4                      5
21. How replicable do decision makers in your organization believe PW's findings will be in your organization?  
 Not at all      Somewhat      Moderately      Very Much      Extremely  
 1                      2                      3                      4                      5
22. How acceptable is your organization to accept the PW approach and the changes it entails?  
 Not at all      Somewhat      Moderately      Very Much      Extremely  
 1                      2                      3                      4                      5
23. If practitioners in your organization deliver the PW program, how well do these characteristics describe these practitioners as a group?: flexible, open-minded, intelligent, creative, and a serious work ethic  
 Not at all      Somewhat      Moderately      Very Much      Extremely  
 1                      2                      3                      4                      5
24. How much contact did your organization have with Dr. Gordon?  
 Not at all      Very limited      Moderate      Fair Amount      Much Contact  
 1                      2                      3                      4                      5

If you rated the implementation as a 4 or 5, what are the main reasons why the implementation is successful?

If you rated the implementation as a 1 or 2, what are the main reasons why the implementation is not successful?