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Key words: parenting; dissemination; family health promotion; professional training

Introduction

The dissemination of population-based parenting and family support interventions is predicated on the assumption that there is an available and well-trained workforce prepared to implement such programs. There is surprisingly little empirical work addressing the issues involved in this assumption. This problem contributes to the gap between what has been proven effective and what is currently used in the community. It has been identified as a concern in

both prevention (Biglan & Taylor, 2000; Botvin, 2004; Pentz, 2004) and treatment outcome research (Hershell *et al.*, 2004; Ollendick & Davis, 2004; Weisz *et al.*, 2004). This concern is amplified when evidence-based programs are implemented at population level, as parental exposure to an intervention is essential to achieving population-level outcomes (Sanders, Markie-Dadds, Rinaldis *et al.*, 2006 in press).

The adoption of evidence-based programs by agencies and service providers is influenced by a range of organizational, training and provider variables. Research has explored factors such as fit with community organizations (Biglan & Taylor, 2000) and collaborative relationships between researchers and communities (Hershell *et al.*,

A B S T R A C T

From a public health perspective, mental health in parents and children can be promoted through population-based dissemination of parenting and family support interventions. However, it is critical that service providers who are acquiring evidence-based parenting interventions complete the training regimen to optimize dissemination and impact. This article examines training completion and its relationship to individual service provider characteristics, barriers to program use and subsequent implementation of an evidence-based program, the Triple P – Positive Parenting Program. In this study, 83.7% of the service providers

completed the two-part training. Individual-level variables did not predict training completion. Service providers from diverse backgrounds were equally likely to complete training, were highly satisfied with the training provided and reported relatively few barriers to implementation. The majority of those who completed training (67.6%) went on to deliver the program with families in the community, whereas only 37.8% of those who did not complete training used the program subsequently. Implications are discussed for fidelity in delivery, cost-effectiveness in dissemination efforts, and population-wide health promotion.

2004; Wandersman, 2003; Weisz *et al*, 2004). However, once programs have been developed and relationships forged between researchers, program disseminators and communities, there are still the challenges inherent in training service providers in a community in a cost-effective manner. Ensuring that providers master the skills involved in program delivery is a critical challenge for successful dissemination of evidence-based programs.

Although concrete evidence is not readily available, it is likely that the return on an agency's investment from specific in-service training of providers is compromised when service providers fail to complete all training requirements, for whatever reason. There is little published evidence concerning participation and completion rates of various evidence-based psychosocial interventions for children, and none to our knowledge relating to parenting interventions. Such information is important, as training programs that require service providers to demonstrate competency standards invoke a higher level of personal and organizational investment and can be threatening to some service providers. It is not surprising that some fail to complete a training course.

Service-provider competency in use of programs is facilitated by service providers' full participation in training. Training service providers to an acceptable level of mastery not only is necessary for dissemination, but also contributes to the fidelity of implementation (Dumas *et al*, 2001). Better fidelity of implementation presumably leads to stronger outcomes. From a cost-effectiveness perspective, an incomplete training process is costly to the extent that valuable training places are taken up by individuals who are less likely to use the program, which reduces population return on the training investment. Despite these critical considerations for dissemination, there is little research examining the impact of professional training regimens on evidence-based parenting interventions.

Training of service providers in delivery of evidence-based programs typically involves multiple components. A pivotal aspect of high-quality training is having service providers demonstrate core competencies that indicate achievement of a reasonable level of provider mastery. This facet of training is intended to help service providers consolidate learning, to address problems or concerns that service providers might have encountered in their first attempts at implementation, to provide the host organization with a method of quality assurance, to permit trainers to provide expanded guidance to participants, and possibly to increase provider confidence about delivering the newly acquired skills, which in turn might make program adoption more likely.

Training for the Triple P

The program training described in this study focuses on dissemination of the Triple P—Positive Parenting Program (Triple P). The Triple P system, which was developed by Sanders and colleagues at the University of Queensland, has as a core feature a carefully developed process for training a wide range of service providers to implement various levels of Triple P (Sanders, 1999). The training model for Triple P assumes that service providers need instruction in both the theory and practice of parenting and family support interventions, including practice and demonstration of core competencies. The training, typically delivered in groups of 20 participants, covers both the content of parenting techniques and how to work collaboratively with parents.

The Triple P training model integrates three approaches: active skills training, a self-regulation approach to skills development, and a systems-contextual perspective to address work-place issues relevant to service providers.

Active skills training methods (modeling, rehearsal, practice and feedback, goal setting) are widely used in most cognitive-behavioral training programs. A self-regulation framework (Sanders, 1999) extends active skills training methods by fostering service-provider autonomy and independence in the process of self-change (Kanfer & Scheff, 1988). Service providers are encouraged to take responsibility for setting their own learning goals through use of self-regulatory techniques such as self-monitoring, self-evaluation of performance, self-appraisal of strengths and weaknesses, and self-selection of goals for change. This self-regulatory framework is very useful for adult learning in a professional training context, as trainees typically have a wealth of clinically relevant experience and knowledge to draw on, and see themselves as autonomous decision makers with respect to patient management.

The Triple P systems-contextual or ecological perspective involves taking account of the broader social and organizational context within which service providers practice. Many different contextual factors can impede or facilitate service providers' capacities and motivation to implement a program subsequent to initial training. These factors include competing time demands on service providers, and the quality and ease of use of program resources. Implementation of an evidence-based program may also require service providers to adopt new behaviors. Training provides the avenue for facilitating those factors necessary for behavior change, such as building provider self-confidence, motivation to use the program, and providing all the skills and materials required for implementation (Kealey *et al*, 2000).

The impact of Triple P training

Three studies to date have examined the impact of Triple P training programs. Sanders, Tully *et al* (2003) demonstrated that general practitioners (GPs) undergoing Triple P training had significantly better parent consultation skills, as assessed by both provider self-report and independent behavioral observation of consultation skills with simulated patients, than comparison GPs waiting to be trained in the control condition. Trained GPs were also more confident in their use of individual parent consultation skills (for example use of role-plays with parents), and overall were highly satisfied with the quality of training they received. Sanders, Murphy-Brennan and McAuliffe (2003) examined the effects of Triple P training with 331 GPs. Participation in the brief two-day training course was associated with significant improvement in provider consultation skills, greater satisfaction with their consultations, and high levels of participant satisfaction with the training provided. Sanders *et al* (2005) found very high levels of participant satisfaction with the quality of training received by 375 professionals participating in different levels of Triple P training.

The significance of completed training

Although these studies are encouraging, no studies have examined variables related to completion of professional training and providers' subsequent program use following initial training. The achievement of a minimal or acceptable standard of proficiency is important because it enables one to predict more accurately future fidelity to the program when it is infused into the community.

Implementation in practice of the core components acquired through training increases fidelity to the program, and greater fidelity and quality implementation have been shown to lead to superior results in desired outcomes (Elliot & Mihalic, 2004; Kam *et al*, 2003).

There are implications for both quality assurance and cost-effectiveness when service providers do not complete training. If a service provider who has not completed training uses the program with families, the level of competence and the quality of program delivery that families are exposed to are unknown. When the effectiveness of the program cannot be assumed due to incomplete provider training, further costs may be incurred as families may need to return for further services. In population-based prevention trials, more parents need to be exposed to an intervention than in treatment outcome studies or prevention studies with exclusively high-risk populations, in order to

demonstrate a population-level effect. It is critical that service providers complete training and implement the program across the community in order to maximize families' exposure to and participation in the intervention.

The study

The study reported here sought to extend the literature on the dissemination of evidence-based parenting programs by investigating whether there are individual characteristics that can predict whether a service provider does or does not complete training. Additionally, program fit, work environment, client management barriers and their association with training completion are explored. Finally, training completion and its association with subsequent program implementation in community settings are examined.

This study examined variables hypothesized to predict completion of a training course for the Triple P – Positive Parenting Program that required attendance at two different points in time (six to eight weeks apart). In addition, the relationships of completion and non-completion with provider use of the program, as well as the relationship with barriers to program use endorsed six months after initial training, were explored.

Methods

Participants

Agencies, professionals and paraprofessionals working with children and families in both private and public sectors in nine counties in South Carolina, USA, were identified. Providers in the fields of public health, education, mental health, social services, juvenile justice, school readiness, child abuse prevention, family advocacy and parent support groups were contacted and given information about Triple P and local training opportunities. Recruitment included a combination of face-to-face, mail and telephone contact. Five hundred and seventy-nine service providers attended initial training. The providers identified themselves as 54% Caucasian, 40% African-American, 1% Hispanic, and 3% Asian, Native-American, Biracial, Indian, Cuban American and Japanese American. The participants were mostly females (92%) and ranged from 17 to 71 years of age (mean = 43.8, SD = 13.5). Service-provider experience in parent consultation relating to child behavior ranged from less than one year to more than forty years. The participants were employed in a wide variety of settings: 32.3% as counselors or therapists (various settings), 17% as parent educators, 16.8% as

social workers, 10.2% in childcare settings, 9.8% in health-care settings, 4.9% in management or administration, 4% in education (other than as guidance counselors or parent educators), and 4.7% in other settings (including faith-based, military, and law enforcement).

Training program

Service providers were trained in Primary Care (Level 2–3), Standard (Level 4), or Group (Level 4) Triple P. It was possible for participants to attend more than one level of training. Only data from each participant's first training course were used in this study, so that previous attendance at a training course did not confound results. Service providers self-selected into training levels according to which was most appropriate for their occupation and agency. Level 2–3 training focused on primary care brief parent consultations. Level 4 Standard training was designed for individual work with parents of children at risk for more severe behavioral problems. Level 4 group included training for delivering Triple P to groups of parents. All training courses required attendance on two different occasions approximately six to eight weeks apart. The first part of each course, which was either two days for Primary Care Triple P or three days for Standard and Group Triple P, consisted of the initial training, when Triple P knowledge and skills were imparted. At the end of this initial training, service providers were encouraged to bring the program back to their worksite to practice delivering the program with peers or clients.

The second attendance-based facet of the training courses occurred six to eight weeks after initial training, and consisted of competency practice and evaluation. Service providers were required to demonstrate their skills and knowledge of Triple P through role-playing with other providers who stood in as parents. Service providers were directed to illustrate skills in two mandatory scenarios (provided to them before the completion of training), and then chose the third scenario from three options. Service providers were required to demonstrate at least 80% of the requisite skills in each scenario. Trainers could coach service providers until they reached competency. Trainers were also available to address any concerns or issues that service providers had encountered with the program since their initial training. Passing the competency evaluation, in addition to attending the initial training and passing a written test based on information provided in Triple P training and program material, provided the basis for becoming an accredited Triple P provider.

Procedure

Service providers registered for training offered in the counties in which they worked. Service providers completed a pre-training assessment form at the beginning of the training, and a post-training assessment form and training evaluation form at the end of the initial training sessions. Six to eight weeks after the first part of training, service providers returned to complete the training process. All service providers who had participated in the initial part of training were eligible to participate in a 20-minute structured telephone interview six months after initial training. Interviews were conducted by trained interviewers who had not been involved in Triple P training with the service providers whom they interviewed. The interview team was able to complete interviews for 97% of the service-provider sample. The three per cent not interviewed were providers who had left their jobs without providing follow-up contact information.

Measures

- **Education.** Education was assessed by providers' self-report of their degree/discipline and profession on the training registration form and pre-training assessment form. It was divided into two levels: education up to and including a university bachelor's degree, and post-graduate education.
- **Proficiency.** Proficiency in parent consultation skills was assessed through the Parent Consultation Skills Checklist (PCSC) developed by Turner and Sanders (1996). The PCSC is a 20-item self-report instrument that assesses proficiency in consultation skills at pre- and post-training. Skill items included, for example, 'using behavioral rehearsal in skills training with parents', 'dealing with resistance from parents', and 'discussing parenting strategies'. Providers rated their level of proficiency for each skill on a Likert scale ranging from 1 (not at all proficient and would like assistance) to 7 (extremely proficient, no assistance required). Pre-training and post-training proficiency scores were each computed as an average of item ratings. High internal consistency for pre- and post-training administration of the PCSC has been reported previously ($\alpha=.97$ and $\alpha=.96$, respectively – Turner *et al*, under review).
- **Years of experience.** Level of experience in parent consultation was assessed through the pre-training assessment form by asking providers for the number

of years of experience they had had in parent consultation relating to child behavior.

- Hours per week. Amount of involvement in parent consultation was assessed through the pre-training assessment form, where providers reported the average number of hours per week that they spend in parent consultation relating to child behavior.
- Confidence. Provider confidence in parent consultation was assessed on both the pre- and post-training forms by the question 'How confident are you in conducting parent consultation about child behavior?'. Providers responded on a scale of 1 (not at all confident) to 7 (very confident).
- Adequacy of individual training. Providers' self-report of adequacy of training in parent consultation skills was assessed on both the pre- and post-training forms by the question 'Do you feel adequately trained to conduct parent consultations about child behavior?'. Providers responded on a scale of 1 (no, definitely not) to 7 (yes, definitely).
- Training satisfaction. Satisfaction with initial training was assessed by responses on the training evaluation form. Questions included 'How would you rate the content of the course?' and 'In an overall sense, how satisfied were you with the course?'. Responses were given on a Likert scale from 1 (very dissatisfied) to 7 (very satisfied). An average of the responses was used to create a variable score for each provider.
- Self-efficacy. Self-efficacy in Triple P skills was assessed by responses on the training evaluation form to the question 'Do you feel you now have the skills to implement Triple P in your work with families?'. Providers responded on a scale of 1 (no, definitely not) to 7 (yes, definitely).
- Program use. Provider use of the program was assessed six months after initial training as part of a larger telephone interview. Providers were asked whether they had used Triple P with families at any time since their initial training. Supervisors and non-supervising providers who identified themselves as having used the program since initial training were counted as users. Those who stated that they had tried once or twice and stopped using, or had never used the program, were categorized as non-users.
- Potential barriers to use. Potential barriers to using the program, as perceived by service providers, were assessed as part of a larger structured telephone interview. Nineteen potential barriers were posed and providers were asked to rate how much of an obstacle each item had been to their use of Triple

P. Responses were given on a 1 to 5 scale, 1 being not an obstacle, 3 a moderate obstacle and 5 an extreme obstacle. Potential barriers were related to workplace and organizational factors, clinical and client management issues, and program-related variables.

Results

Comparison of training completers and non-completers

Table 1, opposite, reports the means, standard deviations and t-tests for each predictor variable. Inspection of **Table 1** reveals that there were no significant differences between completers and non-completers for any variable. To test the association between level of education and completion of training, a 2x2 chi-square analysis was performed; $\chi^2 = .302$, NS. The level of provider education was unrelated to training completion.

A logistic regression was performed to investigate the level of association between all of the predictors collectively and completion of training. Eleven predictors were used: education, pre- and post-training proficiency, pre- and post-training adequacy of individual training, pre- and post-training confidence, years of experience, hours per week, self-efficacy, and training satisfaction. Supervisors and non-supervising providers were combined in the analyses ($N = 579$). The model predicted a modest 2.5% of the variance, $R^2 = 0.025$. The analysis revealed no significant predictive associations by either an individual variable or the variables collectively.

Relationships between non-completion of training and potential barriers to program use

Analyses were conducted to examine the association between non-completion of training and potential barriers to use six months after initial training. For the completer and non-completer groups **Table 2**, opposite, presents the means and standard deviations for provider ratings of each potential barrier. For all the potential barriers, the mean ratings were relatively low (most means were between 1.0 and 2.0 on a 5-point scale), indicating that service providers generally did not see these factors as serious obstacles to program use. However, 13 of the 19 potential barriers were rated at significantly higher levels by non-completers than completers. Potential barriers that differentiated between completers and non-completers were distributed across items related to workplace characteristics, issues of provider/program fit, and challenges in program management.

TABLE 1 Means, Standard Deviations and T-tests for Predictor Variables by Training Completion

Variable	Completers		Non-completers		t*
	Mean	SD	Mean	SD	
Years of experience	9.87	8.55	9.33	7.53	-.56
Hours per week	10.98	10.21	10.50	10.07	-.41
Pre-training proficiency	4.45	1.10	4.38	1.23	-.56
Pre-training adequacy in training	4.60	1.22	4.58	1.34	-.11
Pre-training confidence	4.52	1.24	4.43	1.22	-.65
Post-training proficiency	5.69	0.79	5.60	0.86	-.94
Post-training adequacy of training	5.75	1.00	5.56	0.97	-1.72
Post-training confidence	5.55	1.02	5.33	1.10	-1.88
Self-efficacy	5.77	0.98	5.47	1.18	-2.57
Training satisfaction	6.38	0.81	6.16	0.89	-2.32

*All t-value significance levels were $p > .05$.

TABLE 2 Relationship Between Non-Completion of Training and Potential Barriers to Program Use

Potential barrier	Completers (n=380)		Non-completers (n=73)		t-test
	Mean	SD	Mean	SD	
Workplace characteristics					
Triple P not integrated with caseload or other responsibilities	2.12	1.40	2.87	1.70	4.00*
Lack of recognition for Triple P work	1.63	1.08	2.07	1.55	2.90*
Insufficient access to consultation or supervision	1.66	1.04	2.01	1.47	2.38*
Unavailability of overtime or comp time	2.07	1.55	2.48	1.84	1.87
After-hours appointments clashing with other commitments	2.20	1.46	2.32	1.72	0.59
Issues related to provider/program fit					
Adequacy of training from training course	1.27	0.65	1.85	1.37	5.65*
Triple P materials not available	1.18	0.66	1.72	1.41	5.05*
Clash with theoretical orientation or preferred treatment approach	1.37	0.76	1.93	1.37	4.91*
Not enough skills or knowledge in behavioral family interventions	1.75	0.96	2.27	1.45	3.77*
Difficulty applying Triple P to the needs of the child or family	1.70	1.06	2.22	1.43	3.48*
Tailoring program to individual families and their needs	1.70	0.98	2.10	1.33	2.91*
Low availability of clients	1.94	1.32	2.13	1.68	1.04
Challenges in program management					
Use of baseline measures	1.72	0.95	2.17	1.27	3.31*
Difficulty co-ordinating with other practitioners involved with family	1.60	0.93	2.01	1.41	3.06*
Covering session material in the scheduled time	2.27	1.22	2.73	1.46	2.75*
Setting specific goals or agendas for sessions	1.48	0.85	1.81	1.25	2.67*
Keeping parents on track during consultations	2.36	1.12	2.65	1.34	1.89
Lack of progress by children or families	2.39	1.09	2.61	1.36	1.39
Engagement of families	2.36	1.25	2.46	1.47	0.58

* $p < .05$

Note: Barriers were rated on a scale of 1 to 5, with 1 = 'not an obstacle', 3 = 'moderate obstacle', and 5 = 'extreme obstacle'.

Rates of program use for training completers and non-completers

To assess whether completion of training was related to providers' use of the program in practice six months after initial training, a 2x2 chi-square analysis was conducted. All supervisors and non-supervising providers who had completed the six-month survey were included (N=453). As hypothesized, subsequent use of Triple P was significantly related to completion of training; $\chi^2 = 23.53$, $p < .001$. In this sample, 83.7% of the providers completed training. Those who had completed training were more likely to be using the program, that is, 67.6% were using Triple P six months later, whereas only 37.8% of those providers who had not completed training were using the program. Of the total providers who were using the program, 90.2% had attended all of the training.

Discussion

This study investigated professionals' completion of training during population-wide dissemination of the evidence-based Triple P – Positive Parenting Program, and the association of completion with individual characteristics, barriers to use, and subsequent implementation in workplace settings. Prior research had already established that service providers who complete Triple P professional training demonstrate increased confidence and proficiency in parent consultation skills (Sanders, Murphy-Brennan & McAuliffe, 2003; Sanders, Tully *et al*, 2003; Turner *et al*, under review). The study did not support the hypothesis that individual factors would predict non-completion of training. Results demonstrated that providers from diverse backgrounds with varying levels of previous training, experience, self-efficacy and confidence were equally likely to complete Triple P training.

The systems-contextual perspective of the Triple P model emphasizes how organizational and social factors can affect provider training behaviors. Further investigation of the influence of workplace and agency factors is warranted, to tease out alternative influences on training participation. When barriers to training and implementation occur at an agency level, individual providers may feel that their hands are tied regarding adoption of a new program. Identified obstacles to training completion can be addressed initially through the participation of community stakeholders in the design of dissemination strategies, and further avoided by continued investment in program adoption at agency and broader ecological levels. Understanding and addressing agency and community level barriers to training

completion ideally will increase the percentage of providers who become trained to competency in evidence-based parenting programs and providing quality services to families.

In addition to anticipating potential barriers to training completion before dissemination efforts, it might be possible early in training to address perceived barriers to workplace implementation that might be influencing a provider's decision not to finish the training process. In this study, 13 of the 19 potential barriers to program use were rated as significantly greater by those who did not complete training than by those who did. Addressing those perceived barriers in an explicit fashion at the beginning of training could decrease resistance to training attendance and subsequent program usage. For example, trainers can brainstorm with providers about how to apply the program to fit their professional approach and the needs of the different populations whom they serve. Szapocznik *et al* (1988) found that using specific engagement strategies and addressing potential barriers with clients before their first session increased client attendance and completion in a therapeutic intervention. The same principle can be extended to interacting with service providers.

This study has emphasized the importance of training completion in evidence-based program dissemination efforts. The results demonstrated that those providers who had completed training in an evidence-based parenting program used the program in practice at higher rates than those who had not completed training, even though the non-completers had received enough training to implement the program. Accessibility to the program through a variety of community settings is imperative for population-based dissemination, so that large numbers of families are exposed to the intervention. Increasing the percentage of providers who complete training in an evidence-based program, and subsequently go on to deliver the program in the community, both increases the opportunities for family involvement and maintains the cost-effectiveness goals of dissemination efforts.

The fact that almost all providers who were using the program six months post-training (90.2%) had completed training also has important implications for fidelity to the program in the field. It is critical that providers are not just providing the program, but are doing so at a reasonable level of proficiency. Ensuring mastery of skill in those providers delivering programs is a critical assumption of evidence-based interventions. Providers who had completed training had either shown competency in the skills necessary to implement the program, or had been coached to competency by qualified trainers. Thus all providers who

had completed training had reached at least a sufficient level of proficiency in Triple P skills to assure a certain level of quality implementation by those providers. The likelihood that those providers would adhere to the principles and strategies of the program in practice is higher than for those providers who had not completed training. As was found by Elliot and Mihalic (2004), superior results are more likely when a program is implemented with fidelity. Training completion, therefore, increases not only likelihood of use, but also delivery with adequate skill and fidelity, producing better outcomes for families.

Limitations

The limitations of this study need to be mentioned. One limitation is reliance on self-report. In this study, there was no independent assessment of parent consultation skills. Skills, as reported by providers, may be evidence of confidence in skills rather than accurate measures of proficiency. Alternatively, some providers may have wanted to convey the impression that they were more competent in their skills, and consequently provided inflated rates of consultation skills. Reporting the use of the program in practice six months after training could also be susceptible to social desirability influences. This may be especially true of providers who completed training and may have developed more of a relationship with the other providers who had received training, and with the trainers. To counteract these biases, providers were assured that interviewers who were assessing program use were completely separate and distinct from training staff, that their responses would only be seen in the form of group totals and percentages, and that the confidentiality of their answers would be protected. However, incorporating independent verification of program use would increase confidence in implementation rates.

Implications for further research

This study has demonstrated that population-based dissemination efforts are most cost-effective when providers complete training. Providers who complete training cannot be distinguished by individual characteristics. However, those who do complete training are more likely to be delivering the program in the community, providing an empirically supported intervention for families. In determining whom to train, future research should look beyond individual provider variables to examine larger agency and macro-systemic facilitators and barriers to training completion and program adoption.

An underlying assumption of training is that providers are being trained to at least a minimal level of competency

in program delivery. Future research should examine the degree to which community providers deliver evidence-based programs as designed after completing training. Increased understanding of the factors that increase fidelity in program delivery and training completion can inform the field about factors that increase efficiency in training, and can guide efforts to support the effectiveness of evidence-based programs disseminated at population level.

An important implication of the present findings is that program disseminators should expect participants in training, particularly when drawn from a multidisciplinary workforce, to encounter a range of organizational and other barriers to completion of training and use of the program. However, for most providers these barriers are minor, and usually do not deter use of the program. Nonetheless, anticipating and mitigating potential barriers are critical tasks for effective dissemination of evidence-based programs.

The dissemination of the Triple P–Positive Parenting Program system at population level falls clearly within the realm of mental health promotion. To have effective mental health promotion, the programming needs to be evidence-based, readily accessible to the community at large, and easily disseminated by professionals. The dissemination of Triple P, as described in this article, makes full use of the existing multi-disciplinary workforce. This study has examined the training process and illuminated ways to improve dissemination and, ultimately, optimization of mental health promotion in the area of positive parenting.

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