

Decreasing Effect Sizes for Effectiveness Studies— Implications for the Transport of Evidence-Based Treatments: Comment on Curtis, Ronan, and Borduin (2004)

Scott W. Henggeler
Medical University of South Carolina

The most important finding from the N. M. Curtis, K. R. Ronan, and C. M. Borduin (2004) meta-analysis for the broader field is likely the difference in effect sizes between multisystemic therapy efficacy versus effectiveness studies. This difference has important implications for research on the transport of evidence-based treatments to community practice settings. For example, factors rarely considered in efficacy research (e.g., funding structures, organizational climate, program maturity, site characteristics) are emerging as important determinants of treatment fidelity and, in turn, clinical outcomes for practice in real-world settings. Current research is clearly demonstrating that evidence-based practices can be successfully transported, but much remains to be learned regarding the optimal parameters of such transport.

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The most important finding for the broader field that emerged from the Curtis, Ronan, and Borduin (2004) meta-analysis of published multisystemic therapy (MST) outcome studies is likely the difference in average effect sizes achieved by the studies that were more characteristic of efficacy research ($d = .81$) in comparison with those that were more characteristic of effectiveness research ($d = .26$). Although both sets of studies included samples that reflected real-world clinical populations (e.g., violent juvenile offenders with minimal exclusion criteria), the nature of the therapists and the clinical supervision differed significantly between these groups of studies. In the efficacy studies, the therapists were doctoral students in clinical psychology, and the supervisor was one of the original developers of MST.

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Correspondence concerning this article should be addressed to Scott W. Henggeler, Family Services Research Center, Department of Psychiatry and Behavioral Sciences, Medical University of South Carolina, 67 President Street, Suite CPP, P.O. Box 250861, Charleston, SC 29425. E-mail: henggesw@muscu.edu

Moreover, supervision included weekly reviews of treatment sessions that were audiotaped or videotaped, and the therapists were actively engaged in various therapy training activities (e.g., taking courses in family therapy) at the time. The effectiveness studies, by comparison, included master's- and bachelor's-level therapists who were employed by community mental health centers or the Medical University of South Carolina. Although the developers of MST provided a modest level of initial training for these therapists, an MST developer did not provide ongoing supervision, by design. Indeed, one of the studies specifically aimed to examine changes in outcomes when components of the MST quality assurance protocol were removed. Although some of these therapists demonstrated consistent adherence to MST, others had low adherence to the intervention protocols.

The primary aim of this comment is to discuss the implications of the MST efficacy–effectiveness effect size discrepancy for the transport of other evidence-based treatments to field settings. In particular, factors that are rarely considered in efficacy research (e.g., site effects, program maturity, organizational climate, funding structures) are proving critical in understanding the capacity of evidence-based practices to be implemented effectively in community settings.

Troublesome Implications of the Efficacy Versus Effectiveness Difference in Effect Size

Many federal and state entities, private foundations, policy makers, and investigators have invested substantive resources in promoting the transport of evidence-based

practices into real-world settings. Their hope or assumption is that the types of effects achieved in efficacy studies will translate to similar effects in community practice. This hope, however, might be overly optimistic for several reasons.

Lack of Effectiveness Research

To the best of my knowledge, no child mental health treatment modality other than MST has the breadth of outcome research that allows an efficacy versus effectiveness comparison. In light of the attenuated effect size for MST effectiveness studies, therefore, it seems entirely possible that other interventions with strong efficacy outcomes (e.g., studies supervised by treatment developers) will not be as effective in community practice where a multitude of challenging factors (e.g., clinician, organizational, and service system characteristics; Schoenwald & Hoagwood, 2001) can influence treatment implementation, fidelity, and outcome. Indeed, Weisz and Kazdin (2003) recently concluded that "treatments that cannot cope with these real world factors may not fare so well in practice, no matter how efficacious they are in well-controlled laboratory trials" (p. 448).

Related Meta-Analyses

Although not directly comparable to the Curtis et al. (2004) article, related meta-analyses in the child mental health literature do not support the effectiveness of practice in community settings. In seminal research, Weisz and his colleagues (Weisz, Donenberg, Han, & Kauneckis, 1995; Weisz, Donenberg, Han, & Weiss, 1995) showed that the average effect size in child mental health efficacy studies is considerably greater than the average effect size of zero obtained in clinical trials conducted in community settings. Likewise, and more recently, Weersing and Weisz (2002) found that depressed youths treated in community mental health clinics had symptom trajectories similar to those observed for youths in control conditions in successful cognitive-behavior therapy efficacy studies. Such findings are not optimistic regarding the viability of community-based services. On the other hand, the average effect size in the MST effectiveness studies was meaningfully greater than zero.

Effect Sizes Might Decrease Further as the Treatment Developers Are Removed From Investigations

Chorpita (2003) made the excellent point that effectiveness studies are not the final hurdle in judging the viability of a treatment model in real-world practice. Direct involvement of treatment developers in dissemination sites is not a feasible (or desirable) strategy for large-scale dissemination of an evidence-based practice. The most stringent test of transportability is whether the evidence-based treatment can achieve favorable outcomes independent of the developers'

clinical and/or research oversight. For example, can a clinical program located thousands of miles from the model developers achieve favorable outcomes with no direct involvement of the developers in clinical or research operations? Chorpita noted that good examples of such studies do not exist. As described next, however, ongoing MST research is informative on this issue.

Cause for Optimism: Emerging Findings From New MST Research

During the past decade, as MST programs have been transported to more than 30 states and eight nations, MST-related research efforts have focused on three broad areas: (a) adaptations of the model for challenging clinical populations other than serious juvenile offenders (e.g., youths with serious emotional disturbance, maltreated youths, youths with poorly controlled diabetes, juvenile sex offenders, and young children with serious externalizing problems); (b) independent and multi-site replications of the fundamental MST approach with serious juvenile offenders; and (c) research on the transport of MST programs to community settings. As described next, published and unpublished findings from the latter groups of studies support the viability of this evidence-based treatment in practice settings.

Independent Multi-Site Evaluations

Several independent groups of investigators have recently completed or are in the process of completing randomized trials of MST for juvenile offenders. MST developers had no direct involvement in the implementation of clinical or research methods in these studies. Findings from three of the multi-site trials are either published in peer reviewed journals (Ogden & Halliday-Boykins, 2004) or are available as technical reports (Barnoski & Aos, 2004; Leshied & Cunningham, 2002). Notably, each of these studies found very pronounced site effects. That is, MST programs were much more effective at reducing the antisocial behavior of youths at some sites than at others. Understanding why some sites are successful, while others are not, is a research priority.

Multilevel Predictors of Success in Practice Settings Are Emerging

Schoenwald and Hoagwood (2001) described numerous dimensions and variables that can influence the effectiveness of an evidence-based treatment that has been transported to practice sites. Indeed, in a 45-site MST transportability study, including approximately 2,000 families and 400 therapists, Schoenwald and colleagues (Schoenwald, Sheidow, & Letourneau, 2004; Schoenwald, Sheidow, Letourneau, & Liao, 2003) have reported considerable variability in clinical effectiveness among sites. Variations in youth outcomes have been associated, for example, with

organizational climate and structure, therapist fidelity, and key aspects of the MST quality assurance protocol.

Findings From Benchmarking Research

As shown by Weersing and Weisz (2002), effect sizes from efficacy and effectiveness research can be used as standards of comparison for effect sizes obtained in community practice settings. Schoenwald and Sheidow (2004) reported that the average effect size for youth symptom reduction in the aforementioned transportability study was generally equivalent to that obtained in MST effectiveness trials with similar participants. These findings support the capacity of this evidence-based practice to achieve favorable outcomes in practice settings.

Lessons for Reviewers of Treatment Outcome Research and Transportability Researchers

Experiences during the past 25 years in conducting efficacy, effectiveness, and transportability studies as well as in transporting MST programs to more than 150 sites supports the significance of the following issues (though these are three among many).

Evaluate Site Effects

Just as therapists have varying rates of clinical success, sites have strengths and weaknesses that affect the capacity of an effective intervention model to be implemented successfully. Again, identifying and addressing the factors that influence program implementation and corresponding clinical outcomes should be a priority in research examining the transport of evidence-based treatments.

Evaluate Program Maturity Effects

Extensive anecdotal experience and findings from two unpublished MST studies suggest that the first year of operation can be particularly challenging for many new MST programs. Outcomes often improve dramatically after the programs become stabilized within the provider organization and ties with the community are solidified. Hence, evaluations of the effectiveness of an evidence-based treatment delivered in community settings should consider the developmental phase of the program.

Examine Program Fidelity

As described in a recent special series on current strategies for implementing evidence-based interventions in clinical practice (Schoenwald & Henggeler, 2003), virtually all evidence-based treatments that are currently being transported to community settings place a strong emphasis on program fidelity and use dedicated organizations to provide ongoing support (quality assurance) to clinicians and provider organizations attempting to implement the treatment. Indeed, numerous studies, including several of those cited

here, have found significant links between treatment fidelity and youth outcomes. Rigorous evaluations of treatment adherence and program fidelity are absolutely critical to understanding the successes and failures of evidence-based treatments in community practice.

Conclusion

Effect sizes for evidence-based treatments will most likely decrease along the continuum from efficacy studies to effectiveness studies to studies conducted in field settings that are independent of the treatment developers. Moreover, many variables can interfere with the capacity of an effective intervention to achieve desired outcomes in real-world clinical settings. Nevertheless, evidence from MST outcome and transportability research suggests that positive outcomes can be achieved in practice settings that are independent of treatment developers. A critical direction for future research is determining the conditions that optimize the effect sizes obtained by evidence-based treatments in such settings.

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