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Gregory A. de Smidt

Kevin M. Gorey
University of Windsor

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Unpublished social work research: Systematic replication of a recent meta-analysis of published interven- tion effectiveness research

A recent meta-analysis of 279 published studies on the evaluation of social work interventions (Gorey, 1996) generally found them to be effective. Nearly eight of every 10 clients (78 percent) who engaged social work services and participated in interventions or action plans developed with a social worker did better than typical nonparticipating clients (for example, those relegated to an alternative-intervention comparison group). This index of social work's average interventional effect size was estimated to be significant in a statistical sense; yet, in a practical clinical or policy sense, it was also deemed "significant." Moreover, Gorey's (1996) meta-analysis of the extant social work research literature of the 1990s essentially replicated the overall findings of similar reviews of social work's effectiveness from the 1970s and 1980s (Reid & Hanrahan, 1982; Rubin, 1985; Thomlison, 1984; Videka-Sherman, 1988). The consistent inference has been that social work services are helpful (significantly ameliorate, alleviate, or solve the problem identified by the client and worker) to the majority of people who use them. There is a plausible alternative explanation for social work's touted effectiveness: Given that the meta-inferences of Gorey and others were primarily based on the summarization of published research, it may be that their overall positive findings are explained by the tendency for peer-reviewed journals to print "significant" or non-null findings. This potential "file drawer problem" (Rosenthal, 1979), or publication bias, has not been adequately accounted for in reviews of the research on social work's effectiveness. The present meta-analysis of conceptually similar, although unpublished, social work research findings will do so.

POSSIBILITY OF PUBLICATION BIAS

Theory development in support of the notion of publication bias as well as empirical verification

of its effects in the research review process have been exclusively reported in psychological journals. Smith and Glass's (1977) seminal meta-analysis of nearly 400 studies on psychotherapy outcomes got the proverbial ball rolling. Its generally positive finding—that 75 percent of psychotherapy participants experienced better outcomes than the average person in a nonpsychotherapy control group—was refuted on many grounds, not the least of which was its published study sampling frame. Over the next decade the debate continued, with some arguing that publication bias fatally confounded the review-generated finding (Coursol & Wagner, 1986; Kurosawa, 1984); however, others contended that Smith and Glass's central review finding was robust to the confounding influence of publication bias (Landman & Dawes, 1982).

This ongoing debate notwithstanding, other research evidence has strongly suggested that the mere potential for publication bias means that research reviewers ought to routinely address it when interpreting their findings. Surveys of authors have found a significant relationship between their studies' outcomes and the decision to publish; studies with positive or non-null results are more likely to be submitted to peer-reviewed journals for publication consideration (Coursol & Wagner, 1986; Greenwald, 1975).

Furthermore, it seems that associations or effect sizes reported in published sources tend to be larger than those reported elsewhere. For example, one review of the socioeconomic status–academic achievement association found the average estimate to be 15 percent larger among journal articles compared with similar estimation among unpublished theses (White, 1982).

We are not aware of any study that suggests that the potency of publication bias among the social work research literature or of any rationale for such bias is any less problematic for social work research practitioners than for other allied human services professionals (for example, psychologists). Given such naïveté, the present analysis assumed that publication bias is a large professional social work press problem. For instance, the worst case scenario, as originally suggested by Rosenthal (1979), may be true: "that journal articles are represented by 5 percent of the studies that show Type I errors (for example, really nonsignificant, but with significant results due to random sampling variability), while file drawers are filled with 95 percent of the studies that show nonsignificant ($p > .05$) results" (p. 638).

Although the problem is probably not this dramatic, if any trend toward this scenario were true for social work research, then research reviews such as Gorey's (1996) would clearly be fatally confounded by such bias; thus, their review-generated findings would be invalid. The meta-analysis discussed in this article empirically examined the question by systematically replicating Gorey's recent review of published research on social work's effectiveness with conceptually similar although unpublished studies.

METHOD

Recent doctoral dissertations and master's theses (1990 to 1994) affiliated with schools of social work that reported empirical findings of research on social work effectiveness were the target population. As a source of unpublished research, dissertations and theses have many strengths: They typically use at least a minimum level of methodological rigor, and their quality is formally checked by several faculty members. Also, they are far more likely than other unpublished sources (for example, professional conference proceedings or "informal college" sources) to provide detailed quantitative and qualitative information that may facilitate the evaluation of an intervention's statistical and clinical significance (Light & Pillemer, 1984). Twenty-four such unpublished studies were retrieved from *Dissertation Abstracts Ondisc*, which includes the following databases: *Dissertation Abstracts International*, *Masters Abstracts International*, *Comprehensive Dissertation Index*, and *American Doctoral Dissertations*. For convenience and efficiency's sake, the extended abstracts of these 24 studies comprised the sample for this meta-analysis (see References—Sample Studies). Like Gorey's (1996) analysis of published research, this meta-analysis examined the same subject key word search scheme and calculated a scale-free effect size metric, the r index (interpretable as Pearson's r), for each study and summarized it across the 24 studies (Cooper, 1989).

RESULTS

Sample Description

The 24 unpublished social work dissertations and theses this review analyzed typically (75 percent) had sample sizes of fewer than 100 participants (median = 72, combined intervention and comparison groups; range = eight to 10,455). Sixteen (67 percent) of the studies were program

evaluations, whereas the others evaluated direct, face-to-face interventions with individuals, small groups, or families (Table 1). The direct practice interventions were predominantly of brief duration (median = eight weeks, range = six to 14 weeks); however, only 13 (50 percent) of the study abstracts reported valid data on this variable. Only three studies (13 percent) mentioned follow-up assessment after the initial postintervention period; such follow-up was done at six, 12, and 18 months. Three-fourths (75 percent) of the studies' research designs fell short of the true experiment categorization, but the majority (58 percent) included some comparison or control condition.

Not surprisingly, given typical practice constraints, few (13 percent) of them used random selection of their samples; instead, they relied on convenience sampling. Finally, a variety of outcome measures—individualized intervention-specific measures (58 percent), standardized instruments (38 percent), and archival ones (4 percent)—were used to assess the effectiveness of social work interventions.

TABLE 1—Descriptive Profile of the 24 Reviewed Interventions and Their Study Designs: Percentage Distributions

Study Characteristic	No. of Studies	%
Level of the intervention		
Program, community	16	66.7
Small group	5	20.8
Family	2	8.3
Individual	1	4.2
Group designs		
Pre-experimental ^a	10	41.7
Quasi-experimental	8	33.3
Experimental	6	25.0
Comparison group ^b		
Standard/alternative	12	85.7
None or waiting-list	2	14.3
Outcome measures		
Individualized to problem	14	58.3
Standardized	9	37.5
Archival	1	4.2

^a One of the group pre-post designs used a concomitant series of single-client AB designs ($n = 8$), and one of these studies was a meta-analysis.

^b Coded for the 14 studies with comparison or control groups (quasi- and true experiments).

These unpublished studies were similar to their published counterparts (Gorey, 1996) on the characteristics described in the previous paragraph except three: level of intervention, type of comparison group, and use of follow-up assessment procedures. Unpublished dissertations and theses were more likely to be program evaluations (67 percent versus 27 percent of published studies) and far less likely to have evaluated interventions with individuals (4 percent versus 23 percent). As for their evaluation designs, the unpublished studies that used a comparison or control condition were more likely to use a standard or alternate intervention group for comparison than published studies (86 percent versus 53 percent) but far less likely to make such comparison at long-term follow-up (13 percent versus 40 percent); all noted unpublished–published research comparisons were significant at a minimum level of $p < .05$, conservative χ^2 test with small-sample adjustment. No variables were found to be associated with intervention effect size among these unpublished studies nor among the previously reviewed published ones, so they are not likely to confound the unpublished–published effect size comparison.

Effectiveness of Social Work Intervention

Combining the results of the 24 dissertations and theses, the present review replicated the general effectiveness of social work interventions found by the previous review of published social work research; the mean r index was .296 (95 percent confidence interval [CI] of .210, .382) (Table 2). Conversion to Cohen's (1988) U_3 sta-

tistic allows for the inference that three-fourths (73 percent) of the clients who participated in an intervention group did better than the average comparison group client. Moreover, the average social work interventional effect size found among this sample of unpublished studies ($r = .296$, $SD = .215$) did not differ significantly from that estimated with published research [$r = .356$, $SD = .261$; $t(110) = 1.15$, not significant]. Publication bias does not seem to confound recent inferences based on published social work research about the profession's interventional effectiveness.

DISCUSSION

Recently available unpublished research on social work intervention provides the basis for generally inferring its effectiveness. Based on 24 doctoral dissertations and master's theses, approximately three-fourths ($U_3 = 73$ percent) of clients participating in an intervention do better than the average client in a comparison group. Moreover, this overall finding closely replicates that of a recent meta-analysis of the published research on social work's effectiveness ($U_3 = 78$ percent; Gorey, 1996); the two estimates do not differ significantly.

This article is an extension of the previous one. Together, the articles demonstrate that publication bias does not confound the generally positive inferences about social work's effectiveness that have been reported in the profession's peer-reviewed publications. We can be confident in the validity of the notion that social work services are practically helpful to about eight of every 10 clients who use them; it does not seem to be explainable by the tendency of social work journals to report positive findings.

As for the main effect of social work interventions, the statement in the previous paragraph succinctly summarizes the principal findings of research on social work practice over the past 25 years. What about those for whom social work services are ineffective, the estimated two of every 10 clients we encounter? Answers to questions of these clients' specific needs and the provision of effective services to them may be the mission of the next generation of social work research. We need to extend the population and contextual validity of our professional knowledge base. Having favorably answered the question of social work's overall effectiveness, we must learn how the effects of specific interventions are moderated by specific client and situational characteristics.

TABLE 2—Effectiveness of Social Work Intervention: Dissertations and Theses versus Published Research

Effect Size Statistics	Dissertations and Theses	Published ^a
Studies (n)	24	88
Minimum r	.000	-.380
Maximum r	.731	.962
Mean r	.296	.356
SD	.215	.261
r , 95 percent confidence interval	.210, .382	.302, .411
Cohen's U_3 (%)	73.0	77.7

^aFrom Gorey (1996).

Potential Limitation of Unpublished Research

This meta-analysis was based on the assumption that at the time of their defense, doctoral dissertations and master's theses on the effectiveness of social work interventions are more likely to present nonsignificant findings or smaller effects than conceptually similar published studies, the results of which have been screened and accepted by professional journal peer reviewers. The validity of this assumption is supported by the following empirical evidence: First, seven of the 24 dissertations and theses (29 percent) reviewed failed to reject the null hypothesis, whereas only 14 of the 88 published articles (16 percent) previously reviewed (Gorey, 1996) failed to do so, a nearly twofold between-group difference. Second, limiting the preceding comparison to internal evaluations only, those that may be most representative of the day-to-day research practice experience of social workers, the between-group difference was even more pronounced [29 percent versus 0 percent, $\chi^2(1, N = 69) = 11.85, p < .01$, small-sample adjusted]. Finally, consistent with previous research on publication bias in the psychological literature, the average effect reported in professional press publications ($r = .36$) was found to be about 15 percent larger than that of dissertations and theses ($r = .30$).

Not surprisingly, then, evidence has been found that supports the notion that the potential for publication bias among the social work peer-reviewed research literature does exist. However, the combined evidence of Gorey's (1996) previous meta-analysis and this one strongly suggests that their consistent finding of social work's effectiveness is robust to the intrusion of such bias.

It should also be noted that even though dissertations and theses are categorically definable as unpublished at the time of their defense, they may be subsequently published in the profession's journals or elsewhere. To the extent that this review's sample of dissertations and theses have penetrated the professional literature, its hypothesized independent variable (unpublished versus published) will misclassify studies. Such misclassification bias does not seem to potently confound this review's central finding for the following reasons: First, at the time of this writing, computer searches of *Social Work Abstracts*, *Psychological Abstracts*, and *Sociological Abstracts* revealed that only two of the dissertations had subsequently been published (Berry, 1992; Walton, Fraser, Lewis, Pecora, & Walton, 1993), strongly supporting the criterion

validity of this review's unpublished-published operational definition [$r = .95$, converted from $\chi^2(1, N = 112) = 100.72, p < .01$]. Second, exclusion of these two subsequently published dissertations did not result in substantively different meta-analytic inferences. Finally, exclusion of the nine dissertations originally reported in 1994 (those most likely to presently be in review or in press) did not result in substantively different meta-analytic inferences. So we are confident that this review samples unpublished social work research, albeit from a conveniently sampled accessible population of dissertations and theses. More costly sampling of the profession's largest source of unpublished research—the findings of social workers' day-to-day practice experiences presently extant in their "file drawers"—would greatly enhance our overall understanding of the effectiveness of social work methods. ■

Gregory A. de Smidt, BS
BSW candidate

Kevin M. Gorey, PhD, MSW
Assistant Professor
School of Social Work
University of Windsor
401 Sunset Avenue
Windsor, Ontario
N9B 3P4
e-mail: gorey@server.uwindsor.ca

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