

Summer Research Grant Proposal – 2011

I. Title of Proposed Project

Counseling Outcomes in the Treatment of Bulimia Nervosa: A Meta-analysis of Clinical Trials Conducted Between 1980-2009

II. Abstract (200 word limit)

Clinical trials exploring the effectiveness of counseling and psychotherapy in treatment of Bulimia Nervosa composed this meta-analysis. Of 1507 possible studies identified from 1980-2009, 111 peer-reviewed studies were selected. A study was selected if it included: participants identified with significant bulimic symptoms; receipt of individual, group, or family intervention; use of bingeing / purging outcome measures; pretest and posttest mean score data; and publication in English. The meta-analysis will answer four main questions: 1) Does treatment of Bulimia Nervosa reduce bingeing episodes, purging episodes, and body dissatisfaction?; 2) If yes, do these interventions having staying power at the follow-up points?; 3) Are self-help approaches as effective as therapist directed approaches?, and 4) Are any theoretically based therapeutic approaches superior to others? Results will be synthesized using a random effects model for mean difference and mean gain effect size estimates. Tests of homogeneity (Cochran's Q and I^2) will be conducted to discern effects of moderating variables. Study limitations and implications for counseling practice and future research will be discussed.

III. Description (1500 word limit)

1. Objective of Proposed Work

The objective of this summer research proposal is to conduct a meta-analysis of the effectiveness of counseling/psychotherapy (nonmedication interventions) for treatment of Bulimia Nervosa, specifically the reduction of bingeing episodes, purging (e.g., vomiting, laxatives, excessive exercise) episodes, and body dissatisfaction. A meta-analysis is a review and analysis of previously conducted individual clinical trials. These clinical trials yield widely varying results which can be quantified using an effect size.

In a comparison group clinical trial (i.e., two independent groups of randomly assigned participants in which one group gets the treatment and the other is given either no treatment [waitlist condition] or an alternative treatment [treatment-as-usual condition]), a mean difference effect size indicates how much better (or worse) the treatment group did compared to the comparison group, thus indicating the effectiveness of the treatment. In a single group clinical trial (i.e., all participants are assigned to the treatment condition and given a pretest and posttest following the treatment regimen) a mean gain effect size indicates how much better (or worse) the treatment group was at the end of the study (posttest) compared to the beginning of the study, again indicating the effectiveness of the treatment. Thus, each clinical trial produces an effect of treatment on that sample (i.e., effect size) and these effect sizes indicate how effective the treatment was in reducing symptoms of Bulimia Nervosa. Of course, different clinical trials use different participant samples (e.g., gender, race/ethnicity, socioeconomics), therapeutic approaches, treatment protocols, intensities, and durations, and these variations in designs and procedures can create variations in results. These study characteristics are potential moderator

variables because they can create differential results. For example, gender may be a moderating variable if treatment approaches for Bulimia Nervosa are more effective for women than men in reducing bingeing and purging episodes.

In a meta-analysis, clinical trials are viewed as replication studies and the effect size is viewed as a study-free estimate of treatment effect. Thus, effect sizes can be combined for numerous clinical trials of similar design (e.g., all waitlist control studies, or all single group studies) to yield a grand mean effect of treatment across numerous clinical trials. This meta-analysis will allow a quantitative synthesis of controlled and single-group trials of psychotherapy/counseling (nonmedication) approaches to the treatment of Bulimia Nervosa in diverse participant samples. Moderator variables will be identified and specific analyses will be conducted to answer questions related to the effectiveness of counseling at termination (posttest), follow-up (at various time points after termination), and differences between various therapeutic approaches (e.g., cognitive-behavioral therapy, interpersonal therapy, family therapy), and self-help vs. therapist directed approaches. Implications for clinical practice and future research will be prominent components of the Discussion section.

2. Significance of Proposed Work

Bulimia Nervosa has a lifetime prevalence rate of 1.5% in women and 0.5% in men, and is consistently listed among the top five mental health concerns on university campuses (Hudson, Hiripi, Pope, & Kessler, 2007). Numerous clinical trials studying the treatment of Bulimia Nervosa have been conducted, but the efficacy results vary widely, basically ranging from no effect to a large effect of treatment. The most recent, high-quality, random effects model meta-analysis for treatment of Bulimia Nervosa with counseling/psychotherapy was published in 2003 using only 26 controlled studies published from 1980-2000 (Thomson-Brenner, Glass, & Westen, 2003). More than 30 single group and treatment-as-usual controlled clinical trials were excluded from that meta-analysis and approximately 50 additional studies have been published from 2000-2009. As the number of studies increases, so does the statistical power of analyses. The number of clinical trials using waitlist controls, treatment-as-usual, and single group designs has reached the point where minimum requirements for power analyses have been met for each comparison ($k > 20$ for each analysis)(Cornwell, 1993; Cornwell & Ladd, 1993). This proposed meta-analysis represents a significant advance in the synthesis of 111 controlled and single-group studies and an estimated sample size of 7,000+ patients using clinical trials conducted over a 30-year period. This comprehensive summary will be of incredible importance to the counseling field and a frequently cited article because it will represent the current status of treatment of clients with Bulimia Nervosa.

3. Plan to Accomplish Proposed Work

I will adhere strictly to the following time table:

June:

1. Code the 25 primary variables and compute appropriate effect sizes for each of the 111 selected articles.
2. Write Introduction and Method sections.

July:

3. Compute sample adjusted effect sizes, variance and inverse variance estimates, and inverse variance weighted effect size variables (i.e., wES , wES^2 , w^2 , v_0).
4. Assess for publication bias.
5. Using a random effects model, compute mean effect sizes and standard errors for each group of effect sizes (waitlist control, treatment as usual, single group) for each primary dependent variable (i.e., bingeing, vomiting, laxatives, body dissatisfaction) for both post treatment and follow-up phases, and then test null hypotheses.
6. Compute homogeneity estimates (i.e., Q & I^2) to determine the presence of moderator and mediator variables.
7. As necessary, conduct additional hypothesis testing to determine differences between adolescent and adult sample results, therapy vs. guided help approaches, etc.

August:

8. Write Results and Discussion sections.
9. Submit manuscript to the *Journal of Counseling & Development* (JCD).

Inclusion of studies in this meta-analysis required compliance with eight specific criteria. Studies ultimately selected were discovered through three primary search methods: computerized searches, reviewing reference lists, and hand searches of viable journals. See Figure 1 for a flowchart of the study selection process. Potential moderator variables were coded for each candidate study and effect sizes computed. Statistical analyses for a meta-analysis are quite sophisticated and beyond the scope of this summary.

4. Broader Context of Proposed Work

As a scholar and teacher in a social sciences discipline, I have become concerned over the seeming disconnectedness of contributions to the extant literature. Thousands of studies are published annually that explore minute facets of important constructs within complex fields of study. Yet, little is done to aggregate or synthesize these important basic research and application studies into a holistic understanding that will move the field forward and enhance practice. I consistently hear students and practitioner colleagues comment that research is esoteric and individual studies lack relevance to the practice of counseling in the trenches. In my early years as a scholar, I was one of the legions who contributed to the minutia of this esoteric extant literature. But as my scholarly agenda has evolved and my grasp of, and insights into, the field have matured, I am seeing the importance of integration, synthesis, and conveying the “big picture” to students and practitioners. They want to know what works with clients and under what conditions, and want a one stop information source to obtain that knowledge. Thus, I have concluded that meta-study of essential areas of practice is the appropriate method for accomplishing these goals and objectives. This proposed project is a next step toward the synthesis and integration of knowledge of what works in the counseling field.

This proposed study on treatment of Bulimia Nervosa is one in a series of meta-analyses that I have either completed or plan to complete over the next several years. I have completed meta-analyses on the treatment of depression in school-aged children and the treatment of alcohol and drug abuse in school-aged children, both of which will appear in print later this year in high quality refereed journals. I have two other meta-analyses in the planning stages: treatment of anxiety in school-aged children and treatment of oppositional defiant disorder in

school-aged children. Meta-analyses are highly valued by research journals and highly cited by scholars writing on these clinical topics because quality meta-analyses synthesize results across numerous studies instead of focusing on the results of one sample in one study using one design or method.

Previously, I was awarded a senior faculty sabbatical to complete two book projects and successfully accomplished those projects in the allotted time. I have published more than 15 books and 40 research articles. I have never applied for a Loyola summer research grant prior to this application, or for an external grant to support this line of inquiry, but am using this opportunity to secure funding as a step in that direction. Meta-analyses are sometimes funded by government agencies and foundations because they represent cutting edge summaries of important fields of inquiry. The Editor of *Journal of Counseling & Development* (JCD), the flagship journal of the American Counseling Association, has requested that I submit this manuscript for consideration of publication when completed. The Editor of JCD has already accepted the depression meta-analysis (mentioned above) for publication and views these types of articles as incredibly valuable both in terms of informing practice and frequency of future citations by other scholars.

IV. Cited References

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