EFFICACY OF TREATMENTS FOR SEXUALLY ABUSED CHILDREN: A META-ANALYSIS

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EFFICACY OF TREATMENTS FOR SEXUALLY ABUSED CHILDREN: A META-ANALYSIS

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A large body of literature has documented negative mental health and behavioral outcomes for sexually abused children (e.g., PTSD, depression, ADHD). In response to these problems, researchers have developed individual, group, and family interventions for treating children who have experienced sexual abuse. The goal of this project was to conduct a comprehensive meta-analysis of the efficacy of psychological and behavioral treatments for sexually abused children. The overarching objectives of the project were to determine what treatments are most effective and under what conditions such treatments work best. The goals of this project included: evaluating treatment efficacy for the most common psychological sequelae of sexual abuse among children (PTSD, externalizing problems, and internalizing problems); investigating treatment characteristics (e.g., theoretical approach to treatment, treatment modality, type of study design) that may moderate the efficacy of interventions for children with a history of sexual abuse; and examining the impact of the participant characteristics of age, gender, and ethnicity on treatment outcomes. To accomplish these goals, meta-analyses were conducted, which involved performing a comprehensive literature search of all relevant

social science retrieval systems, coding each study according to a specified coding system, and calculating effect sizes that corresponded to each study goal. Results of this meta-analysis suggest that treatment is effective in reducing PTSD symptoms, externalizing problems, and internalizing problems following sexual abuse, which is consistent with prior meta-analyses. This study also found that longer interventions were associated with greater treatment gains and that group and individual treatments were equally effective. Further, this study uncovered shortcomings of the meta-analytic design utilized in studies investigating treatment for victims of childhood sexual abuse and provides recommendations for overcoming these limitations in future meta-analyses.

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Introduction

A large body of literature has documented negative mental health and behavioral outcomes for sexually abused children (e.g., PTSD, depression, ADHD). In response to these problems, researchers have developed individual, family, and group interventions for treating children who have experienced sexual abuse. Despite these efforts, a comprehensive examination of the treatment outcome literature for victims of childhood sexual abuse (CSA) has not been conducted. Consequently, more research is needed to evaluate the overall efficacy of treatments for sexually abused children suffering deleterious outcomes.

The goal of this project was to fill a gap in current knowledge by conducting a comprehensive review of the efficacy of treatments for sexually abused children. More specifically, a quantitative summary (i.e., meta-analysis) of all experimental, quasi-experimental, and single-group pretest-posttest studies published from 1980-2008 that investigated treatments for child victims of CSA was conducted. A range of symptom areas and diagnoses commonly associated with CSA were evaluated. This project yielded a quantitative evaluation of the overall treatment efficacy for victims of CSA, and investigated several important treatment and participant characteristics that may impact various treatment outcomes.

Research Questions and Associated Hypotheses

1. First, is treatment for the well-established outcomes of CSA efficacious? To answer this question, a comprehensive meta-analysis of the treatment outcome literature for victims of CSA was conducted. In doing so, this project provided a quantitative analysis of the treatment efficacy for the most common negative outcomes associated with CSA:

PTSD, externalizing problems, and internalizing problems. Treatments as a whole were expected to demonstrate efficacy across the symptom areas that were examined.

2. Second, do specific treatment characteristics moderate the efficacy of interventions for children with a history of CSA? To answer this question, the following characteristics were examined: a) the theoretical approach to treatment (e.g., cognitive-behavioral), and b) other moderating factors, such as length of treatment, type of study design, and treatment modality (e.g., group vs. individual). Examination of these factors is crucial considering that up to 22% of the variance in treatment outcomes may be due to such characteristics (Lipsey, 1992).

3. Third, do key participant characteristics impact treatment outcomes? Research suggests that participant characteristics, including age, gender, and ethnicity may influence (i.e., moderate) treatment outcomes (e.g., Deblinger, Stauffer, & Steer, 2001). Based on previous research findings, treatment was expected to be more effective for older children (Deblinger, Stauffer, & Steer, 2001). Due to the lack of previous findings regarding the impact of gender and ethnicity, these factors were examined in a more exploratory fashion.

Prevalence of CSA

Studies reveal that from 20% to 25% of females and 5% to 15% of males experience sexual abuse as children (Finkelhor, 1994). Many studies have found similar rates of child sexual abuse (e.g., Bolen & Scannapieco, 1999). Although recent estimates suggest that the prevalence of sexual abuse may be declining somewhat (Jones, Finkelhor, & Halter, 2006), the sexual victimization of children remains a significant societal

problem. Importantly, a large proportion of children exposed to CSA experience negative effects, which are outlined below.

Short-Term Consequences of Childhood Sexual Abuse

Prior to 1975, little research was published on the short-term effects of childhood sexual abuse. Although an early case study investigated the effects of CSA in blind children (Elonen & Zwarensteyn, 1975), the first empirical studies of CSA outcomes were published in the early 1980s. While strong evidence suggests that a number of sexually abused children do not display clinically significant symptomatology following sexual abuse (Kendall-Tackett, Williams, & Finkelhor, 1993; Sawyer, 2007), a clear body of empirical research documents that a large proportion of sexually abused children meet diagnostic criteria for at least a single Axis I diagnosis (Merry & Andrews, 1994). An examination of prior reviews suggested that the most common outcomes are: PTSD, externalizing problems, and internalizing problems (Kendall-Tackett et al.; Stevenson, 1999).

PTSD is the most commonly diagnosed disorder among child victims of sexual abuse (Weinstein, Staffelbach, & Biaggio, 2000). In fact, estimates suggest that as high as 37% to 50% of sexually abused children eventually develop PTSD (e.g., McLeer et al., 1988; McLeer et al., 1998). In addition to being diagnosed with PTSD, one investigation found that the vast majority of sexually abused children referred for treatment experienced partial PTSD symptoms (McLeer, Deblinger, Henry, & Orvaschel, 1992). Sexual abuse is a traumatic stressor that may cause children to re-experience the traumatic abuse through memories or dreams and actively attempt to avoid situations or stimuli that remind them of the abuse. Moreover, the high prevalence of PTSD is unique

to sexually abused children compared to children who have experienced other types of adversity (e.g., Tremblay, Hebert, & Piche, 2000). This high prevalence may explain why many studies investigating treatments for CSA view reducing PTSD as a particularly desirable outcome.

Externalizing problems, particularly hyperactivity and aggression, are another common outcome of CSA. Specifically, Attention Deficit/Hyperactivity Disorder (ADHD) is a frequently diagnosed disorder among sexually abused children (e.g., Weinstein, Staffelbach, & Biaggio, 2000). Aside from the diagnosis of ADHD per se, studies have shown that sexually abused children are significantly more hyperactive and aggressive than non-maltreated children (e.g., Dubowitz, Black, Harrington, & Verschoore, 1993; Swanston et al., 2003). Further, researchers have consistently found a high prevalence of conduct disorder in sexually abused children (e.g., Dubowitz, et al., 1993; Lynskey & Fergusson, 1997; Romano, Zoccolillo, & Paquette, 2006). In fact, up to 46% of sexually abused children may continue to have conduct problems for up to five years following the occurrence of sexual abuse (e.g., Tebbutt, Swanston, Oates, & O'Toole, 1997). These types of behavioral problems may serve as an outlet for children to externalize their frustration and attempt to gain control over a situation where they are otherwise powerless (Finkelhor & Browne, 1985).

CSA has also been linked to difficulties at the other end of the behavioral spectrum. Specifically, internalizing disorders, including depression and anxiety, are common outcomes of early abuse. For instance, sexually abused children display higher rates of depression than do non-abused children (e.g., Dubowitz et al., 1993). These rates are quite high, with as many as 43% to 67% of children meeting diagnostic criteria for

depression following sexual abuse (e.g., Koverola, Pound, Heger, & Lytle, 1993; Tebbutt, et al., 1997). Further, anxiety disorders (e.g., phobias, separation anxiety disorder, and obsessive-compulsive disorder) are found in sexually abused children and may have a direct link to CSA (Chaffin, Silovsky, & Vaughn, 2005). The prevalence of anxiety disorders is significantly higher (12% vs. 3%) in sexually abused children than in non-abused children (Spataro, Mullen, Burgess, Wells, & Moss, 2004). This anxiety may stem from worry about revictimization, general fear surrounding sexual issues, or memories of the sexual abuse.

Evidence suggests that these disorders do not occur in isolation, but instead that many sexually abused children experience comorbid disorders. In fact, it is estimated that approximately 55% of children referred for treatment meet criteria for more than one diagnosis (Target & Fonagy, 1996). Further, abundant evidence confirms that the negative outcomes of CSA extend into adulthood and include substance abuse, suicidality, interpersonal problems, PTSD, depression, anxiety and anger (for a review see Neumann, Houskamp, Pollock, & Briere, 1996). These findings document that the negative effects of CSA continue to impact many individuals in adulthood. Therefore, early intervention with children is important to reduce the prevalence of these problems in adulthood.

Evaluation of Treatment for the Sequelae of Childhood Sexual Abuse

Recognition of the widespread negative impact of CSA has driven efforts by researchers to develop treatments that ameliorate these difficulties. A broad clinical literature has described treatment for sexually abused children, which includes many authored books and purely clinical writings (see Knittle & Tuana, 1980; Paulson, 1978). Soon after the emergence of these writings, researchers began to conduct treatment

outcome studies to evaluate specific interventions. While some treatment outcome studies for victims of CSA are conducted in the context of a well-controlled study (efficacy trials), others are conducted in clinical settings (effectiveness trials). The remaining studies lie on a continuum between efficacy and effectiveness based on the amount of experimental control that is exerted in the study (Kazdin, 2003). In the current study, the term "efficacy" will be used, given that the majority of treatment outcome studies examined were efficacy trials. Conducting such treatment outcome studies on interventions for victims of CSA is imperative given that the resources used to treat child abuse are limited and should be used to support the most effective interventions (Hansen, Warner-Rogers, & Hecht, 1998). Various approaches have been employed to evaluate treatment for victims of CSA, including single-group pretest-posttest, quasi-experimental, and randomized controlled designs.

Single-group pretest-posttest designs. Many of the early studies evaluating interventions for sexually abused children used single-group pretest-posttest designs, which assess one group of participants for symptoms before, during, and after treatment (for examples of these studies see: Deblinger, McLeer, & Henry, 1990; Stauffer & Deblinger, 1996). Single-group pretest-posttest designs provide the weakest evidence for treatment efficacy because there is no comparison group to show that the treatment effects are not due to the passage of time. Conclusions cannot be generalized beyond the sampled participants and improvements cannot be conclusively linked to the treatment. However, many treatment outcome studies for sexually abused children have used this design and most report significant improvements after treatment is completed on at least one outcome measure (e.g., James & Mennen, 2001). Further, these types of studies are

often included in meta-analyses to examine change over time and can still make an important contribution to the literature, especially with negative findings, which provide a strong indication that therapy was not effective (Finkelhor & Berliner, 1995).

Quasi-experimental designs. Quasi-experimental studies involve comparing two conditions (i.e., active treatment versus a comparison treatment) without randomly assigning participants to conditions (for examples of such studies see: Sullivan, Scanlon, Brookhouser, Schulte, & Knutson, 1992; Tourigny, Hebert, Daigneault, & Simoneau, 2005). Instead, participant equivalence across conditions is usually estimated by matching sexually abused children with non-abused children on characteristics such as gender, age, and ethnicity. Alternatively, pre-existing differences on these variables can be statistically controlled during analyses. Qualitative reviews suggest that this design often produces mixed results for treatment efficacy (James & Mennen, 2001; Stevenson, 1999).

Randomized controlled designs. As treatments for CSA victims have evolved, so has the sophistication with which these interventions have been evaluated. In recent years, this evolution has resulted in more highly controlled treatment outcome designs. Specifically, in the late 1990s, researchers began conducting randomized controlled trials, which consist of randomly assigning participants to treatment or control conditions (Cohen & Mannarino, 1998; King et al., 2000). Randomized designs control for the passage of time and factors outside of treatment, allowing strong conclusions to be made regarding treatment efficacy. Thus, the methods used to assess treatment outcomes are becoming increasingly rigorous.

Prior Reviews on the Treatment for Victims of CSA

Given the growing literature examining treatment efficacy for victims of CSA, it is not surprising that a number of attempts have been made to review this literature. Some reviews have been in a traditional narrative format while others have included a quantitative component (i.e., meta-analysis). Each of these reviews has added to the literature, yet each also is limited in one or more significant ways. Below is a brief overview of the most prominent reviews on treatment for sexually abused children.

Prior qualitative reviews. Among the most highly cited qualitative reviews of treatment for sexually abused children are Finkelhor and Berliner (1995), Putnam (2003), Saywitz, Mannarino, Berliner and Cohen (2000), and Stevenson (1999). A general consensus among these reviews is that treatment for victims of CSA is effective. While not every child improves, overall, children show significant symptom reduction following treatment as compared to pretreatment scores or control groups. For instance, Stevenson (1999) concluded that within single-group pretest-posttest designs, participants demonstrate consistent improvement in the areas of self-esteem, anxiety, and depression following treatment. Further, these reviews conclude that too few randomized controlled trials have been conducted to definitely state that symptom reduction is due to treatment and not simply the passage of time. Moreover, treatment efficacy appears to vary depending on the research design used. In general, single-group pretest-posttest designs and randomized controlled designs produced consistent findings that almost all sexually abused children improve significantly after the completion of treatment; however, quasi-experimental designs produced mixed results. Lastly, two of the reviews (Putnam; Saywitz et al.) concluded that abuse-specific cognitive-behavioral therapy (CBT) was more efficacious than other types of treatments.

Many reviews of the efficacy of treatments for sexually abused children are thoughtful and well-conducted. Nevertheless, qualitative reviews are inherently limited in several ways. First, this approach is subject to bias in synthesizing research. Bias stems from the lack of inclusion criteria in most narrative reviews, which leaves open the possibility of researcher subjectivity in selecting studies to include. In contrast, meta-analyses summarize various findings of treatment outcome studies by setting explicit the inclusion and exclusion criteria of the studies (Zakzanis, 1998). Second, qualitative reviews typically rely on subjective interpretations of patterns of findings across studies to guide conclusions. This is problematic because "eyeballing" patterns of data may lead to giving studies of differing quality and sample sizes roughly equal weight in drawing conclusions about associations among constructs of interest. On the other hand, meta-analyses explicitly consider study design and sample size (which vary greatly in treatment outcome studies for CSA) as part of a precise computation of effect sizes. Further, meta-analyses allow researchers to assess moderating factors (e.g., research design, demographics), which can be reliably coded from each study (Lipsey & Wilson, 2001) and included in analyses. Thus, researchers can examine the efficacy of treatments for CSA as well as the factors that enhance or diminish treatment outcomes.

Prior meta-analyses. Four published meta-analytic studies have reviewed the treatment outcome literature for victims of CSA (i.e., Reeker, Ensing, & Elliot, 1997; Skowron & Reinemann, 2005; Macdonald, Higgins, & Ramchandani, 2006; Hetzel-Riggin, Brausch, & Montgomery, 2007). Reeker et al. examined the efficacy of group treatments for victims of CSA based on the following outcomes: internalizing symptoms, externalizing symptoms, sexual behaviors, and self-esteem. This meta-analysis included

15 studies published between 1986 and 1996 with a total of 220 participants. All of the studies were single-group pretest-posttest designs. These authors found a large mean effect size of $d = .79$, which suggests that subsequent to treatment participants improved by an average of 79%.

Skowron and Reinemann (2005) conducted a meta-analysis on the efficacy of psychological interventions for outcomes related to three forms of child maltreatment, including sexual abuse, physical abuse and neglect. These authors were primarily interested in examining the impact of interventions on the following outcomes: internalizing problems, externalizing problems, and cognitive processes. This meta-analysis included a total of 21 studies; however, only seven of these studies specifically addressed CSA. These seven studies had a total participant sample size of $n = 397$ and were published between 1986 and 2000. Further, all of the studies in the sample were randomized controlled designs. The authors found a mean difference effect size of $d = .69$, which suggests that treatment conditions resulted in greater improvements in contrast to comparison conditions (Skowron & Reinemann). These authors also reported that the effects specific to interventions for CSA were larger than effects for general child maltreatment interventions ($d = 69$, $d = .40$, respectively).

A review of the Cochrane Database of Systematic Reviews revealed another meta-analysis conducted in August of 2006 (Macdonald et al., 2006). This meta-analysis investigated the efficacy of cognitive-behavioral interventions compared to treatment as usual or control groups. These authors examined the impact of cognitive-behavioral treatment on child psychological functioning, child behavior problems, and parenting skills and knowledge (e.g., belief in their child's story). This meta-analysis included 10

studies with a total participant sample size of n = 847. The authors concluded that the CBT interventions resulted in significant reductions in children's PTSD symptoms and anxiety. However they did not find any significant reductions in child depression or behavior problems compared to the control groups.

The most recent meta-analysis published was published in 2007 (Hetzel-Riggin et al., 2007), and included 28 studies with a participant sample size of n = 1,839. This meta-analysis examined potential moderators of treatment efficacy for studies utilizing a single-group pretest-posttest design. For participant characteristics, ethnicity was a significant moderator (i.e., as the percent of non-Caucasian participants increased, the mean weighted effect size increased). For treatment characteristics, the number of therapy sessions and number of months in therapy were both related to increased mean effect sizes.

Although these meta-analytic studies have advantages over narrative reviews, each also has serious limitations. Specifically, the Reeker et al. (1997) meta-analysis was limited in scope because it focused only on group treatments for victims of sexual abuse, while excluding the many studies utilizing individual and family treatments. Further, this meta-analysis contained only one type of research design: single-group pretest-posttest designs which, as noted, is the weakest methodologically. Lastly, the Reeker et al. meta-analysis included studies from 1986 to 1996, with 50% of these studies having been conducted in the 1980s. At least 19 studies have been identified that were published since 1996 and that investigate treatment outcomes for sexually abused children and would be appropriate for inclusion in an updated meta-analysis.