Heterogeneity of Emotional and Behavioral Symptom Presentation in Sexually Abused Youth: The Influence of Parental Characteristics on Outcomes

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Introduction

Over the past four decades, a growing body of empirical literature has linked childhood sexual abuse to a myriad of short- and long-term psychological and interpersonal problems (e.g., DiLillo, 2001; Kendall-Tackett et al., 1993). However, research consistently demonstrates that victimization does not necessarily have an inevitable pattern or a unified presentation of symptoms. In fact, some individuals exhibit little to no symptoms following the abuse (Hecht & Hansen, 1999; Kendall-Tackett et al., 1993). To date, few research studies have attempted to understand the differential patterns displayed by sexually abused youth (e.g., Bennett et al., 2000; Sedlar, 2001).

In a similar manner, previous research has linked maternal psychological distress to a variety of problems for sexually abused youth, such as (a) adjustment difficulties following disclosure (e.g., Deblinger et al., 1997), (b) greater PTSD symptomatology and internalizing behaviors (e.g., Deblinger et al., 1999), and (c) decreased support which been shown to impede treatment outcomes for sexually abused youth (Cohen & Mannarino, 1996; Friedrich et al., 1992). However, empirical research has yet to examine the link between parental characteristics (e.g., parental history of maltreatment, stress, psychological distress) and disparate patterns of sexually abused youth.

Recent studies (Campbell et al., 2006; Sawyer et al., under review), using hierarchical cluster analyses, identified four separate patterns of functioning and adjustment for children who had been sexually abused (i.e., *Behavior Problems*, *Highly Distressed*, *Moderately Distressed*, and *Subclinical*). Using data from the same clinical treatment program, the purpose of this study was three-fold. First, this study sought to partially replicate prior research findings that suggest a four-cluster solution to differentiate a population of sexually abused youth prior to treatment. Second, cluster membership would be re-evaluated post-treatment. Lastly, this study examined whether parental characteristics prior to treatment predicated post-treatment group membership of sexually abused youth.

Method

Participants

Participants were 128 sexually abused youth and their non-offending caregivers recruited primarily from a Midwestern Child Advocacy Center to participate in Project SAFE. Project SAFE (Sexual Abuse Family Education) is a standardized 12-week cognitive-behavioral group treatment program for sexually abused youth and their non-offending caregivers. The youth ranged in age from 6 to 16 years (M = 11.40, SD = 2.74). The caregivers had an age range from 23 to 72 (M = 37.40, SD = 7.25). The majority of the participating caregivers were a biological parent, with 104 (77.0%) biological mothers and eighteen (13.3%) biological fathers.

Child Report Measures

Multiple measures were used to provide information regarding internalizing problems and post-traumatic stress symptoms. The child report measures included the *Children's Depression Inventory* (Kovacs, 1992), *Revised Children's Manifest Anxiety Scale* (Reynolds & Richmond, 1985), *Children's Fears Related to Victimization Scale* (Wolfe & Wolfe, 1986), and the *Children's Impact of Traumatic Events-Revised* (Wolfe et al., 1991).

Parent Report Measures

Parent completed measures related to their child's sexual behavior, and internalizing and externalizing problems. Additionally, parental self-report instruments were utilized to assess their own history of child maltreatment, psychological distress, and parental efficacy. The parent report measures included the *Child Behavior Checklist* (Achenbach, 1991), *Child Sexual Behavior Inventory* (Friedrich et al., 2001). *Childhood Trauma Questionnaire* (Bernstein & Fink, 1998), *Dyadic Adjustment Scale* (Spanier, 1976), *Parenting Stress Index* (Abidin, 1986), *Symptom Checklist-90-Revised* (Derogatis, 1983), and the *Parental Efficacy Questionnaire* (University of Rochester Toddler Project).

Procedures

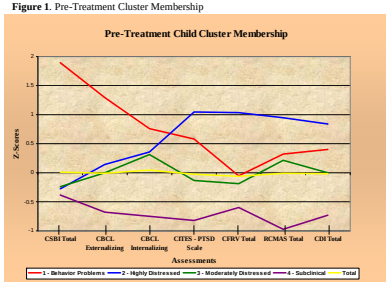
Data for this study was obtained from an ongoing clinical treatment program (Project SAFE). Project SAFE is a 12-week standardized, manual-based cognitive-behavioral group treatment program for sexually abused youth (ages 6-18) and their nonoffending parents or caregivers. Children and parents completed the assessments listed above at four different time points: (a) prior to treatment – T1, (b) mid-point of treatment – T2, (c) post-treatment – T3, and (d) three-months post-treatment – T4. Child maltreatment data were collected at T1 only; the rest of the measures listed above were collected at all four time points.

Results

Pre-Treatment Child Cluster Membership

Hierarchical cluster analyses were conducted using both self- and parent- reports of participant's symptomatology prior to the start of treatment (T1) and immediately following (T3). Scores from these measures were transformed to standardized z-scores prior to cluster analysis. Cases were linked using Ward's method and squared Euclidean distance was selected as the measure of similarity. Cluster solutions were selected by examining the agglomeration schedule as well as the dendogram and possible cluster characteristics. The z-scored profiles for each of the symptomatology measures are shown in Figure 1 for each of the four clusters.

Figure 1. Pre-Treatment Cluster Membership



Cluster 1 – Behavior Problems

Cluster 1 consisted of 18 participants that were characterized by significantly elevated, relative to other clusters, Internalizing and Externalizing scores as well as elevated sexual behaviors scores as reported by their non-offending caregivers. The participants also reported elevated levels of PTSD symptoms, but otherwise reported moderate levels of depression, fear, and general anxiety.

Cluster 2 – Highly Distressed

Cluster 2 was comprised of 25 participants that were characterized by significantly elevated, relative to other clusters, scores on self-reported PTSD symptoms, fears related to victimization, general anxiety, and depression. The participant's non-offending caregivers reported elevated levels of internalizing symptoms but only moderate levels of Externalizing symptoms and sexual behaviors.

Cluster 3 – Moderately Distressed

The third cluster included 44 participants that were characterized by moderate levels on all symptomatology measures, both self-report and parent-report. The participant's non-offending caregivers reported slightly elevated Internalizing symptoms.

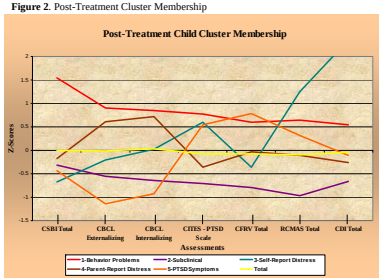
Cluster 4 – Subclinical

This cluster contained 41 participants that were characterized by consistently lower elevations on all caregiver and child measures of symptomatology.

Post-Treatment Child Cluster Membership

Cluster analysis for participants at T3 (N = 81) revealed a five cluster solution as the best fitting solution following treatment. Several of the clusters appeared similar to T1 clusters and are given similar names, others appear to represent novel arrangements of symptomatology. The z-scored profiles for each of the symptomatology measures are shown in Figure 2 for each of the five clusters.

Figure 2. Post-Treatment Cluster Membership



Cluster 1 – Behavior Problems

Cluster 1 consisted of 14 participants that were characterized by significantly elevated, relative to most other clusters, Internalizing and Externalizing scores as well as elevated sexual behaviors scores as reported by their non-offending caregivers. The participants also reported moderate to elevated levels of PTSD symptoms, depression, fear related to victimization, and general anxiety. The majority of participants placed in the Behavior Problem cluster at T1 (75%) fell into this cluster at T3. However, participants falling into this cluster at T3 came approximately evenly (46% each) from both the Behavior Problems and the Highly Distress clusters at T1.

Cluster 2 – Subclinical

Cluster 2 was comprised of 26 participants that were characterized by consistently lower elevations on all caregiver and child measures of symptomatology. The majority of participants placed in the Subclinical cluster at T3 came primarily from the Subclinical cluster (67%) at T1. A sizeable minority (29%) of other participants in this cluster came from the Moderately Distressed cluster at T1.

Cluster 3 – Self-Report of Anxiety, Depression, and PTSD

The third cluster included 6 participants that were characterized by significantly elevated, relative to most other clusters, self-reported PTSD symptoms, general anxiety, and depression scores. These participants reported moderate levels of fears related to victimization and their non-offending caregivers reported moderate levels of Internalizing and Externalizing symptoms and sexual behaviors. Half of the members of this cluster fell in the Moderately Distressed cluster at T1, with the remaining members falling in the Highly Distressed (33%) and Behavior Problems (17%) clusters. None of the participants that fell in this cluster represented greater than 13% of the membership of the clusters they fell in at T1.

Cluster 4 – Parental-Report of Internalizing and Externalizing

This cluster contained 24 participants that were characterized by significantly elevated, relative to most other clusters, Internalizing and Externalizing scores as reported by their non-offending caregivers. Their caregivers reported moderate levels of sexual behaviors and the participants reported moderate levels of PTSD symptoms, fears related to victimization, general anxiety, and depression. Half of the members of this cluster fell in the Moderately Distressed cluster at T1, with the remaining members falling in the Highly Distressed (29%) and Subclinical (21%) clusters. Half of the members of the Moderately Distressed cluster and 41% of the Highly Distressed cluster at T1 fell into this cluster at T3.

Cluster 5 – PTSD Symptomatology

This cluster contained 11 participants that were characterized by significantly elevated, relative to most other clusters, self-reported PTSD symptoms and fears related to victimization. These participants reported moderate levels of general anxiety and depression and their non-offending caregivers reported moderate levels of sexual behaviors and low levels of Internalizing and Externalizing symptoms, relative to most other clusters. Members of this cluster fell into the Subclinical (44%), Moderately Distressed (33%), and Highly Distressed (22%) clusters at T1. None of the participants that fell in this cluster represented greater than 17% of the membership of the clusters they fell in at T1.

Parental Characteristics Predicting Post-Treatment Cluster Membership

A series of one-way ANOVAs were conducted to examine which characteristics of participant's primary non-offending caregiver's history of child maltreatment, psychological distress, and parental efficacy predicted the participant's cluster membership at the end of treatment (T3). For analyses that indicated a significant difference between groups ($p < .05$), follow-up analyses using LSD minimum mean differences were used to determine which groups were significantly different from one another.

Two findings were evident from these ANOVA analyses. First, of the 25 parental variables examined, only seven showed any statistically significant differences between parental characteristics at T1 and participant cluster membership at T3. Second, follow-up analyses revealed a limited number of overall significant differences. This is likely as a result of the smaller sample size in some clusters as opposed to others. Pairwise comparisons, if not represented below, were nonsignificant.

Cluster 1 (Behavior Problems) compared to Cluster 2 (Subclinical)

Parents of participants in the Behavior Problems cluster at T3 reported a **greater history of emotional abuse and increased interpersonal sensitivity** at T1 as compared to parents of participants in the Subclinical cluster.

Cluster 1 (Behavior Problems) compared to Cluster 3 (Self-report of Anxiety, Depression, and PTSD)

Parents of participants in the Behavior Problems cluster at T3 reported a **greater history of emotional abuse** at T1 as compared to parents of participants in the Self-report of Anxiety, Depression, and PTSD cluster.

Cluster 1 (Behavior Problems) compared to Cluster 5 (PTSD Symptomatology)

Parents of participants in the Behavior Problems cluster at T3 reported a **lower sense of competence as a parent** at T1 as compared to parents of participants in the PTSD Symptomatology cluster.

Cluster 2 (Subclinical) compared to Cluster 4 (Parental-report of Internalizing and Externalizing)

Parents of participants in the Subclinical cluster at T3 reported **lower hostility, psychotic symptoms, somatic symptoms, interpersonal sensitivity, and overall symptoms of psychopathology as well as less of a history of emotional abuse** at T1 as compared to parents of participants in the Parental-report of Internalizing and Externalizing cluster.

Cluster 3 (Self-report of Anxiety, Depression, and PTSD) compared to Cluster 4 (Parental-report of Internalizing and Externalizing)

Parents of participants in the Self-report of Anxiety, Depression, and PTSD cluster at T3 reported **less of a history of emotional abuse** at T1 as compared to parents of participants in the Parental-report of Internalizing and Externalizing cluster.

Cluster 3 (Self-report of Anxiety, Depression, and PTSD) compared to Cluster 5 (PTSD Symptomatology)

Parents of participants in the Self-report of Anxiety, Depression, and PTSD cluster at T3 reported a **lower sense of competence as a parent** at T1 as compared to parents of participants in the PTSD Symptomatology cluster.

Cluster 4 (Parental-report of Internalizing and Externalizing) compared to Cluster 5 (PTSD Symptomatology)

Parents of participants in the Parental-report of Internalizing and Externalizing cluster at T3 reported **higher hostility, psychotic symptoms, somatic symptoms, and sense of competence as a parent** at T1 as compared to parents of participants in the PTSD Symptomatology cluster.

Discussion

The purpose of the present study was to further explore the heterogeneity of psychological and behavioral adjustment in sexually abused youth. Consistent with prior research findings (Campbell et al., 2006; Sawyer et al., under review), cluster analysis revealed a four-cluster solution was most effective in differentiating this population of sexually abused youth prior to treatment. However, post-treatment analyses revealed a five-cluster solution as the best fitting solution, demonstrating that group membership for some youth fluctuates over the course of treatment. These findings accentuate the complexity and challenges involved in the research and treatment of sexually abused youth; further underscoring the importance of examining a variety of psychological and behavioral experiences following the abuse, rather than treating sexual abuse as a single, homogenous phenomenon. Similarly, intervention programs for victims of sexual abuse may be most efficacious when the treatment is specifically tailored to accommodate diverse symptoms and behavior problems of these clinical subgroups across treatment.

Parental characteristics prior to treatment were able to predict differences in seven instances post-treatment. In particular, two factors (parental history of emotional abuse and a sense of competence as a parent) were associated with post-treatment symptom presentation for sexually abused youth. However, the limited number of overall significant differences could be the result of the smaller sample size in some clusters.

Limitations of this study include a relatively small sample size representing each cluster, disproportionate participation by gender, and limited cultural diversity. Future studies with larger sample sizes may allow for the inclusion of additional variables to examine factors (e.g., gender, child attributions and cognitions, coping strategies, and cultural differences) that influence group membership and variations in treatment response.